



## **2003 NELSON 3D SEISMIC SURVEY**



**OPERATIONS REPORT**  
**FOR**  
**ESSENTIAL PETROLEUM RESOURCES**  
**LIMITED**  
**BY**  
**TRACE ENERGY SERVICES**  
**MAY – JUNE 2003**

**BY**

**A. P. BRETT**

**OF**

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BIBRA LAKE  
WESTERN AUSTRALIA 6163**

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## 1. INTRODUCTION

Trace Energy Services was contracted by Essential Petroleum Resources Ltd.. to conduct the 2003 Nelson 3D Seismic Survey in the South West of Victoria near the Town of Nelson. Recording commenced on the 11<sup>th</sup> of May 2003 on PEP 151 and was completed on the 23<sup>rd</sup> of June 2003.

### 1.1 Geographical Area

The main seismic program was located around the Township of Nelson and to the East of Nelson in and around the Lower Glenelg National Park in South Western Victoria. Three extra lines were located to the East of this area in Kentbruck.

#### NELSON AREA MAP





## 1.2 Weather

Due to the time of the year that this survey was conducted a considerable amount of rain and hail was experienced. Fortunately this area dried out relatively quickly and most lines were on gravel tracks through the National Park so not too much downtime was experienced by the recording crew however there were some shutdowns due to noise on the line. The temperatures experienced were cool to cold .

## 1.3 Logistics

Crew 401 Personnel were mobilized from Queensland and arrived in Nelson on the 10<sup>th</sup> of May 2003

The crew was accommodated in various caravan parks, guesthouses and motels around the town as no one could accommodate the whole crew. Some bedding was brought in by Trace Energy as most caravans are not fully equipped.

Meals were supplied by the Nelson Hotel.

A workshop was leased 2km from Nelson for the duration of the survey however this was a small shed as appropriate facilities are very hard to find both in Nelson and Mt Gambier.

Fuel was bought from Mt Gambier and vehicles were refueled from Trace Energy Services fuel tanker.

Certified washdowns were carried out prior to any vehicles arriving in Nelson.

A boat supplied by Ray Willox was used for the cable crossings over the Glenelg River.

Signage and cable crossings for the roadwork were carried out by Trace Energy and Ray Willox's employees.



## **SURVEYING**

### **2.1 RANGING / CHAINING / SURVEYING**

Line ranging, chaining and survey were contracted to Dynamic Satellite Surveys of Yeppoon Queensland. See Dynamic Satellite Surveys Final Report.

### **2.2 LINE CLEARING**

Line Clearing operations were minimal as existing tracks, firebreaks and roads were utilized through the town area and also in the National Park. A small amount of slashing and hand clearing was organized by Ray Willox the Permit Man.

### **2.3 PERMITTING**

Ray Willox of Essential Petroleum Resources Ltd. conducted the Permitting, Cultural Heritage, Route Investigation and Landowner Liaison for the entire survey with the assistance of Dynamic Satellite Surveys personnel.

## **3. DRILLING / UPHOLE RECORDING**

### **3.1 DRILLING**

Uphole drilling was contracted by Essential Petroleum Services Ltd.

### **3. UPHOLE RECORDING**

Uphole recording was conducted by Expertest who supplied one recording unit and one operator for the contract.

## 4. RECORDING

Recording on the Nelson Survey commenced on the 11<sup>th</sup> of May 2003 and was completed on the 23<sup>rd</sup> of June 2003.

There were a total of 37 seismic lines totaling 283.825 kilometers.

The daily average for this contract was 6.45 km per day.

Recording operations were significantly hampered by the amount of spread and transverse cables that had to be moved due to the number of live lines and also by a large number of long detours around the Glenelg River and many road crossings.

Prior to the start of the recording of this project hardwire similarity and point source tests were run to ensure the integrity of the data acquired.

Daily tests were also run to ensure the integrity of the spread laid out. Any faulty equipment was removed from the line to be repaired and tested by Trace Energy Services cable repair section.

A detailed listing of the parameters for this survey form Appendix J of this report.



## EQUIPMENT SPECIFICATIONS

### RECORDING EQUIPMENT

- **SERCEL 388 - 24 Bit 3D Seismic Data Acquisition System**
- Sun Monitor and Sun Sparc 5 Computer
- OYO DFM 480 Plotter, UPS, LIM
- Two (2) Fujitsu 3480 Tape Drives
- Option A – Equipment Specification
- 1600 Channels and Max 19 Receiver Lines
- 2 x Sercel Real Time APMs - Sweep Correlators
- 267 x SU6 Telemetry units and Cables (1600 Channels)
- 40 x Sercel PSUs ( 1 x PSU required per 48 Channels = 34 PSUs for 1600 Channels)
- 25 x Sercel CSUs ( 1 x CSU required per Receiver Line = 19 CSUs for 19 Receiver Lines)
- 50 x CSU Patch Cables ( 2 x CSU Patch Cables per CSU )
- 80 x Transverse Cables at 200m (16000m of Transverse Cables)
- 25 x Battery case power Cords
- 40 x Back to Back Cables
- 50 x Batteries for SU6 units
- 2 x Sercel Handheld Cable Testers
- 20 x Sercel Battery Chargers
- Pelton Adv 2 Model 5 VIBSIG Real Time Similarity System
- One (1) 10 metre 6 DB Boost High Gain Antenna on Recording Truck
- **Sensor SM4 10Hz High Specification Superphones**
- Option A – 1600 x Geophone strings with 6 ph/group
- 1 x Sensor SMT100 Geophone Tester

### 3.1.2 SOURCE EQUIPMENT

- Five (5) Litton LRS315 40000lb Peak Force 6x6 Paystar Truck mounted Vibrators:
  - Peak force is 40600lbs per Vibe and
  - Hold-Down weight is 42400lbs per Vibe
  - Five (5) Pelton Advance 2 Model 5 VCEs plus various spare boards.
  - One (1) Pelton Advance 2 Model 5 ESG for Recording Truck.
  - Four (4) Vibrators operating Online and One (1) on Standby.
  - Vibrators are equipped with Force Control and Ground Force Phase Lock using M5I
  - High Performance accelerometers.
- Electronics are capable of Trade Marked Varisweep.



**TRACE VEHICLE LIST**

1996	Toyota Wagon	9GZ-035	Crew Manager
1997	Toyota P.C.	9JH-585	Line Crew
1996	Toyota Crew Cab	9DX-654	Line Crew
1997	Toyota Cable	1AWY-557	Line Crew
1999	Toyota Cable	1BGN-212	Line Crew
1999	Toyota Cable	1BEK-496	Line Crew
1999	Toyota Cable	1BDH-550	Line Crew
1999	Toyota Jug	1BGO-007	Line Crew
1997	Toyota Line Boss	1AFP-393	Line Crew
1998	Toyota Checker	1AUI-376	Line Crew
1997	Toyota Ute	1AFX-011	Mechanics
1999	Toyota Jug	1BHD-892	Line Crew
1992	Isuzu Recorder	922-FWD	
1993	Isuzu Service	1ALU-225	
1984	Isuzu Cable	1A0R-420	
1987	Isuzu Crane	9DL-970	Cable repair shop
1987	Hino Geo-phones	7DT-982	
1985	Hino Fuel	RMR-625	
1987	Hino General	BD-610	
1980	Kenworth	1AGB-177	Mechanics work shop
1980	Pay-star 5000	8xx-751	Litton 315 Vibrator
1980	Pay-star 5000	8xx-752	Litton 315 Vibrator
1980	Pay-star 5000	8xx-753	Litton 315 Vibrator
1980	Pay-star 5000	8xx-754	Litton 315 Vibrator
1980	Pay-star 5000	8xx-755	Litton 315 Vibrator





## **OCCUPATIONAL HEALTH AND SAFETY STANDARDS**

Trace Energy Services are committed to the safety and health of all employees and comply with all relevant Government and State legislation and Client standards. A complete manual of OHS & E policies is available from Trace Energy Services head office.

A summary of standards includes:

- ❖ Crew startup induction / safety meeting / Essential Petroleum Resources Ltd.. Induction
- ❖ Weekly senior personnel performance/operational meeting
- ❖ Sunday crew safety meeting
- ❖ Long sleeve shirts and covered footwear must be worn by field crew at all times
- ❖ Sunscreen supplied
- ❖ Reflective vests for all recording personnel were needed working along roads
- ❖ Satellite Phone in recorder
- ❖ Portable Handheld Satellite Phone
- ❖ Functional UHF Radio fitted in all line vehicles
- ❖ Site specific safety and evacuation plan
- ❖ Random drug and alcohol tests
- ❖ Vehicles fitted with First Aid kits
- ❖ Vehicles fitted with dry powder fire extinguishers

## **FIRE PREVENTION EQUIPMENT**

- ❖ One (1) 2.5kg Dry Powder Fire Extinguisher for each Toyota
- ❖ Two (2) 9.0kg Dry Powder Fire Extinguisher for each Vibrator
- ❖ Fire Blanket and Wet Chemical Extinguisher for kitchen
- ❖ Smoke detectors fitted to all sleeping accommodation
- ❖ Dry powder type extinguishers fitted around camp area

**3480E TAPE LISTING**

<b>TAPE SUMMARY</b>				
<b>LINE</b>	<b>TAPE</b>	<b>Stn - Stn</b>	<b>File - File</b>	<b>Comments</b>
	9000A		001 - 038	Experimentals
OEP03A-146	1A	475.5 - 407.5	001 - 69	3D
	2A	406.5 - 330.5	71 - 142	
	3A	329.5 - 252.5	143 - 213	
	4A	243.5 - 177.5	214 - 279	
OEP03A-46/67	5A	176.5 - 105.5	280 - 351	
	6A	104.5 - 156.5	352 - 423	
	7A	157.5 - 227.5	424 - 495	
	8A	228.5 - 291.5	496 - 559	
	90001A		1 - 9	Experimentals
OEP03A-124	9A	487.5 - 422.5	560 - 625	
	10A	421.5 - 350.5	626 - 697	
	11A	346.5 - 282.5	698 - 762	
	12A	281.5 - 211.5	763 - 831	
	13A	210.5 - 156.5	832 - 887	
OEP03A-24/10	14A	156.5 - 934.5	888 - 949	
OEP03A-10/39	15A	935.5 - 685.5	950 - 1011	
OEP03A-39/37	16A	684.5 - 312.5	1012 - 1071	
	17A	311.5 - 283.5	1072 - 1125	
OEP03A-37/10	18A	282.5 - 908.5	1126 - 1165	
OEP03A-110	19A	883.5 - 828.5	1166 - 1219	
OEP03A-10/37	20A	827.5 - 250.5	1220 - 1279	
OEP03A-37/23	21A	249.5 - 235.5	1280 - 1338	
OEP03A-123	22A	236.5 - 279.5	1339 - 1403	
	23A	280.5 - 349.5	1404 - 1473	
OEP03A-23/16	24A	350.5 - 368.5	1474 - 1543	
OEP03A-16/37	25A	367.5 - 129.5	1544 - 1612	
OEP03A-137	26A	130.5 - 190.5	1613 - 1687	
OEP03A-37/35	27A	191.5 - 191.5	1688 - 1807	
OEP03A-135	28A	192.5 - 274.5	1808 - 1886	
OEP03A-110	29A	762.5 - 699.5	1887 - 1955	
OEP03A-10/31	30A	698.5 - 242.5	1956 - 2020	
OEP03A-131	31A	243.5 - 295.5	2021 - 2078	
OEP03A-31/09	32A	296.5 - 842.5	2079 - 2130	
OEP03A-108	33A	843.5 - 900.5	2131 - 2188	
OEP03A-108	34A	901.5 - 958.5	2189 - 2246	

OEP03A-08/14	35A	959.5 - 230.5	2247 - 2307	
OEP03A-114	36A	231.5 - 311.5	2309 - 2370	
OEP03A-14/35	37A	310.5 - 426.5	2371 - 2429	
OEP03A-35/39	38A	427.5 - 641.5	2431 - 2486	
OEP03A-39/12	39A	643.5 - 375.5	2487 - 2544	
OEP03A-112	40A	373.5 - 235.5	2545 - 2614	
	41A	233.5 - 189.5	2615 - 2671	
OEP03A-12/14	42A	187.5 - 212.5	2672 - 2730	
OEP03A-114	43A	211.5 - 152.5	2731 - 2790	
OEP03A-14/29	44A	151.5 - 371.5	2792 - 2857	
OEP03A-29/08	45A	373.5 - 741.5	2858 - 2913	
OEP03A-08/02	46A	740.5 - 757.5	2914 - 2977	
OEP03A-02/10	47A	755.5 - 610.5	2978 - 3041	
OEP03A-10/27	48 A	609.5 - 141.5	3042 - 3105	
OEP03A-27/29	49A	139.5 - 212.5	3106 - 3169	
OEP03A-29/08	50A	213.5 - 678.5	3170 - 3233	
OEP03A-08/06	51A	677.5 - 320.5	3234 - 3303	
OEP03A-06/04	52A	319.5 - 822.5	3304 - 3359	
OEP03A-04/02	53A	823.5 - 593.5	3360 - 3419	
OEP03A-02/06	54A	595.5 - 289.5	3420 - 3484	
OEP03A-06/02	55A	288.5 - 653.5	3485 - 3545	
OEP03A-02/08	56A	655.5 - 643.5	3547 - 3593	
OEP03A-125	57A	297.5 - 249.5	3594 - 3642	
OEP03A-25/10	58A	248.5 - 540.5	3643 - 3696	
OEP03A-10/08	59A	539.5 - 640.5	3699 - 3749	
OEP03A-08/06	60A	639.5 - 232.5	3750 - 3804	
OEP03A-106	61A	231.5 - 178.5	3805 - 3859	
OEP03A-06/23	62A	177.5 - 898.5	3860 - 3913	
OEP03A-23/10	63A	897.5 - 472.5	3914 - 3973	
OEP03A-10/08	64A	471.5 - 543.5	3974 - 4036	
OEP03A-08/15	65A	542.5 - 271.5	4037 - 4099	
OEP03A-15/21	66A	270.5 - 123.5	4100 - 4161	
OEP03A-121	67A	124.5 - 192.5	4162 - 4230	
OEP03A-21/15	68A	193.5 - 213.5	4231 - 4292	

OEP03A-15/10	69A	212.5 - 402.5	4293 - 4352	
OEP03A-10/08	70A	401.5 - 492.5	4353 - 4412	
OEP03A-108	71A	491.5 - 467.5	4413 - 4439	
	72A	466.5 - 410.5	4440 - 4496	
OEP03A-08/13	73A	409.5 - 327.5	4497 - 4558	
OEP03A-13/10	74A	326.5 - 323.5	4559 - 4620	
OEP03A-10/11	75A	322.5 - 327.5	4621 - 4698	
OEP03A-11/08	76A	326.5 - 364.5	4699 - 4762	
OEP03A-108	77A	363.5 - 331.5	4763 - 4819	
OEP03A-08/10	78A	328.5 - 286.5	4820 - 4871	
OEP03A-110	79A	285.5 - 218.5	4872 - 4929	
	80A	217.5 - 160.5	4930 - 4987	
	81A	159.5 - 130.5	4988 - 5055	
OEP03A-10/01	82A	129.5 - 316.5	5056 - 5115	
OEP03A-101	83A	317.5 - 383.5	5116 - 5178	
	84A	384.5 - 436.5	5179 - 5230	
OEP03A-01/09	85A	437.5 - 153.5	5231 - 5287	
OEP03A-09/08	86A	154.5 - 245.5	5288 - 5345	
OEP03A-108	87A	244.5 - 187.5	5346 - 5403	
	88A	186.5 - 130.5	5404 - 5461	
OEP03A-08/09	89A	129.5 - 188.5	5462 - 5513	
OEP03A-09/04	90A	189.5 - 118.5	5514 - 5571	
OEP03A-104	91A	119.5 - 186.5	5572 - 5639	
OEP03A-101	92A	477.5 - 530.5	5640 - 5696	
	93A	531.5 - 593.5	5697 - 5759	
	94A	594.5 - 647.5	5760 - 5810	
OEP03A-102	95A	174.5 - 115.5	5811 - 5872	
	96A	114.5 - 255.5	5873 - 5938	
	97A	254.5 - 193.5	5939 - 6000	
OEP03A-02/05	98A	192.5 - 403.5	6001 - 6066	
	99A	402.5 - 343.5	6067 - 6126	
	100A	342.5 - 277.5	6127 - 6192	
OEP03A-05/04	101A	276.5 - 281.5	6193 - 6267	
OEP03A-104	102A	282.5 - 344.5	6268 - 6329	
	103A	345.5 - 406.5	6330 - 6391	
OEP03A-04/05	104A	407.5 - 156.5	6392 - 6441	
OEP03A-105	105A	155.5 - 97.5	6442 - 6500	
OEP03A-05/04	106A	96.5 - 493.5	6502 - 6561	
OEP03A-104	107A	492.5 - 433.5	6562 - 6621	
OEP03A-04/02	108A	432.5 - 331.5	6622 - 6691	
	109A	332.5 - 227.5	6692 - 6757	
OEP03A-109	110A	228.5 - 289.5	6758 - 6819	
	111A	290.5 - 310.5	6820 - 6875	

	112A	311.5 - 434.5	6876 - 6945	
OEP03A-102	113A	433.5 - 504.5	6946 - 7015	
102/117	114A	505.5 - 226.5	7016 - 7085	
OEP03A-117	115A	225.5 - 148.5	7086 - 7157	
117/ 119	116A	147.5 - 133.5	7158 - 7229	
119 / 104	117A	134.5 - 619.5	7230 - 7287	
OEP03A-104	118A	620.5 - 683.5	7291 - 7351	
104 / 121	119A	684.5 - 176.5	7352 - 7419	
OEP03A-121	120A	178.5 - 215.5	7420 - 7491	
121 / 104	121A	216.5 - 753.5	7492 - 7559	
104 / 102	122A	752.5 - 555.5	7560 - 7627	
102 / 121	123A	556.5 - 324.5	7628 - 7712	
	124A	323.5 - 655.5	7713 - 7797	
102 / 127	125A	656.5 - 133.5	7798 - 7882	
127 / 104	126A	132.5 - 835.5	7883 - 7961	
104 / 129	127A	837.5 - 311.5	7962 - 8049	
129 / 131	128A	309.5 - 333.5	8050 - 8137	
131 / 108	129A	331.5 - 893.5	8138 - 8220	
108 / 114	130A	895.5 - 227.5	8221 - 8291	
OEP03A-102	131A	727.5 - 788.5	8292 - 8353	
102	132A	789.5 - 856.5	8354 - 8421	
102 / 129	133A	857.5 - 366.5	8422 - 8497	
129 / 112	134A	365.5 - 156.5	8498 - 8573	
112 / 135	135A	157.5 - 471.5	8574 - 8649	
OEP03A-135	136A	472.5 - 454.5	8650 - 8725	
135 / 112	137A	453.5 - 297.5	8726 - 8791	
112 / 102	138A	298.5 - 887.5	8792 - 8853	
OEP03A-102	139A	888.5 - 951.5	8854 - 8918	
102 / 112	140A	952.5 - 342.5	8919 - 8983	
112 / 139	141A	343.5 - 625.5	8984 - 54	
OEP03A - 139	142A	624.5 - 556	55 - 124	
139	143A	555.5 - 489.5	125 - 191	
139	144A	488.5 - 418.5	192 - 263	
139	145A	417.5 - 334.5	264 - 335	
139	146A	333.5 - 262.5	336 - 407	
139 / 118	147A	261.5 - 156.5	408 - 463	
118 / 139	148A	157.5 - 248.5	464 - 527	
OEP03A-139	149A	247.5 - 178.5	528 - 597	
139	150A	177.5 - 108.5	598 - 667	
139 / 122	151A	107.5 - 331.5	668 - 737	
OEP03A-122	152A	330.5 - 148.5	738 - 794	
122	153A	149.5 - 210.5	795 - 849	
122	154A	211.5 - 274.5	850 - 909	
122 / 120	155A	275.5 - 277.5	910 - 969	
120	156A	276.5 - 217.5	970 - 1029	
120	157A	216.5 - 141.5	1030 - 1095	
120 / 122	158A	140.5 - 387.5	1096 - 1161	
122	159A	386.5 - 362.5	1162 - 1186	



## Monthly Injury Summary

Month:	MAY-JUNE	
Year:	2003	
Client:	Essential Petroleum Resources Ltd..	
Location:	Victoria	
Permit Area:	PEP 151	
Total Personnel on Crew:		38
Total Hours Worked (a)		446
Total Exposed Hours (b)		16900
No of Minor Injuries (c)		1
No of Medical Treatments (d)		0
No of LTI's (e)		0

(a) Total Number of Hours Worked in the Permit area per person

(b) Total exposed Hours = (a) x total number of personnel

(c) Number of injuries that required treatment by first aide/medic

(d) Number of injuries that required treatment by medical practitioner Not LTI's

(e) Number of LTI's as identified by Australian Standard 1885

## SAFETY MEETINGS

### **Trace Energy Services** **Start of Contract Meeting** **For Essential Petroleum Resources Ltd**

This Start of Contract Meeting was held on the 11<sup>th</sup> of May at Nelson Victoria, all Trace Energy Services Crewmembers and Trace Energy's Contractors for this survey were present as well as the Client Representative Sam Coniglio, also Present was the Head Ranger for the Lower Glenelg National Park Service.

This meeting started with Ray Willox, the permit man for this survey explaining the **Cultural and Heritage Risk Minimisation Plan** as on this survey the lines run through National Parks and across the Glenelg River which is under the National Parks listing, the main subjects brought up by Ray on this topic were as follows.

- All vehicles are to stay to road surfaces that have been made open for the survey.
- Vehicles are to stay to the lines as to minimise ground disturbance.
- To stop compaction to the soil it is asked to use roads for Vibrators as much as possible.
- To be no Refuelling in National Parks or within 50m of any watercourse.
- Fuel or hydraulic fluid spills to be cleaned immediately and the ranger notified immediately.
- To respect campsites in the parks or near the river and not to start work near these areas to 0800am.
- When working on lines in national park or near Glenelg River take care not to damage or leave any impact on the Flora or Fauna that is near the line.

The Head Ranger for the Lower Glenelg National Park then addressed the crew and Contractors; these are the topics that he brought forward to the meeting.

- That all people working on the survey remove any litter or flagging from the Park once the survey is finished,
- That extreme care is taken when using the Parks roads and tracks as the Park has many bush walks and campsites set-up for Tourism. {A speed limit of 60kms per hour has been put in place when operating in the Park areas.}
- To be especially careful not to damage any vegetation especially near the river where the line cross it and on the hand carries, as these are particular sensitive areas.
- To show consideration for campers and bushwalkers by not starting work too early when near campsites.
- To take care on the roads and tracks in the park, as they are sandy, have blind corners and after the dry spell are already not in the best condition.
- When working around the riverbanks use care not to do any damage, which may lead to erosion later.
- To take great care whilst driving in the Park areas as bushwalkers and campers have a tendency to walk out in front of vehicles.

Trace Energy's Occupational Health and Safety Officer Russell Gregg then addressed the Crew and Contractors on the **Site-specific Safety Plan** for this Survey as well as **Trace Energy's Safety rules.**

- All vehicles are to have daily vehicle checks done first thing in the mornings before leaving for the field.
- All crewmembers to know and beware of the Emergency Response Procedures.
- That Random Alcohol and Drug Tests will be given.
- That Seatbelt wearing is compulsory when working for Trace Energy.
- That all litter and other materials are all brought back from the field.
- Those Trace Crew members wear and use all appropriate PPE.
- All vehicles have a working Radio if not it is not to go out to the field.

The **Main hazards** for this survey were mentioned by Russell and the way that we will safely address them and work around them they are as follows.

- **Working alongside the roads and crossing them.**
- Roadwork safety signs will be put in place before any crewmember or crew vehicles work alongside roads this also goes for the crew troubleshooters.
- Ray wiloxs trained traffic controllers will run the traffic control on all the lines except 148 which we will do by ourselves,
- Crewmembers that are working on the roads or on the road verges will wear the Mandatory high visibility vests
- Vehicles will have lights on, flashing Beacons revolving and their hazard lights on whilst working on the roads or its verge.
- All road crossings will be done at good visibility time periods and removed at the end of the day also in good visibility, this means not at dusk and definitely not in the dark or foggy conditions.
- Road works will stop if weather turns inclement making visibility bad for other road users.
- **River Crossings.**
- The River Crossings will need a boat, which will hold a minimum of two crewmembers, as the boat does not go onto the river unless two crew are on it. {It is very hard to save a drowning crewmember encase of emergency if there is only one person there}
- The Crewmembers that are using the boat must be capable swimmers and be able to swim at least 200mtrs easily if needed.
- The boat will have enough life jackets for each crewmember, if not they are not to be on the boat.
- Tidal and weather conditions must be looked at before using the boat.
- Cable that is crossing the river must be weighted down so that it cannot foul other river using vehicles.
- Care must be taken around the riverbanks as not to do any environmental damage.
- **Working in the Pine Forestry areas**
- The crew is to take great care of logging trucks and other logging machinery.
- The roads and tracks in the forestry areas tend to be dark as well as having very numerous blind corners as well as tending to being narrow, so vehicles will have headlights on at all times as well as the crewmembers working along the tracks will wear their high visibility vests.
- The crew have been warned to watch out for trip hazards as well as low-lying branches.

In addition, Russell Reread all other points on the **Environmental & Cultural Heritage Risk Minimisation plan.**

**All other hazards are to be reported** so things can be worked out how to avoid them or bring in equipment to lower the risk.

Trace Energy's Crew Manager then talked to the crew and contractors and explained the scope of the survey and other crew related matters.

The Client Representative welcomed the crew to the survey and explained to the crew about the client and what they were looking for and wanted out of this survey.

#### SAFETY MEETING REPORT

Date:	25-05-03
Client:	Essential Petroleum
Prospect:	2003 Nelson Survey
Area:	Nelson
State:	Vic
Party Manager:	Paul Armstrong
Scribe:	Russell Gregg
Client Rep:	Sam Coniglio

# Of Accidents since Last Meeting. Vehicles	0
# Of Accidents Since Last Meeting. Employees	1
# Of Compensation Claims Since Last Meeting.	0
# Of LTI'S Since Last Meeting.	0

#### Details:

This meeting was held at the Trace Energy Services Breakfast eating area, at the Bp petrol station  
In Nelson.

1. Paul Armstrong the Crew Manager addressed the crew on how the survey is going and asked the crew to keep up the good work. And to be aware of the road crossings as there is only one left to do and to maintain the high safety which the crew has shown thus far during the contract.
2. Russell Gregg the crews Safety officer then addressed the crew on the following topics.
  - Thanked the road crew for the good standard that they have shown on the highest risk factor of this contract and even though there is only one crossing left to do, do not become complacent as it only takes one accident.
  - The crew were then reminded of the incident that occurred on Friday where a crew member was not wearing the appropriate PPE and was very fortunate not to pay the ultimate price of doing serious damage to his eyes, so once again wear your PPE.
  - The crew was asked to ensure that when eating at night to ensure that a driver is picked to drive back to the caravan park and not consume any Alcohol.
  - The crew and contractors were once again notified of Trace Energy's Alcohol and Drug Policy and that Random tests would take place, Remember 0% is required to go to work for both of these. People found to be disobeying this Policy will be stood down and face disciplinary actions
  - Reminder that seatbelts are to be worn at all times.

- Care to be taken when the vibes split up and travel around to the other side of the river, it would be a good idea that they have a guide so they know where they are heading.

3. Joel Carry then talked to the crew on some line related details.

Trace Energy Services Personnel:

J.Phillipson, R.Gregg, P.Odonnell, N.Grainger, D.Viney, S.Goossens, J.Goossens, D.Postans, A.Bann, S.Beneke, S.Davidson, S.Toll, L.Goold, J.Keane, F.Hicks, E.Burton, M.Robinson, D.Rea, L.Shuttleworth, C.Betteridge, R.Auchram, B.Humpries, T.Hutchinson, T.Earnst, L.McHugh, J.Turner, S.Toll, M.Bann, D.Hildred, J.Carry, T.Carry, P.Armstrong, A.Pippos, M.Lynham, J.Pope, N.Byrne, and Ron Weeks from DSS

Client Personnel:

Sam Coniglio.

Date:	18-05-03
Client:	Essential Petroleum
Prospect:	2003 Nelson Survey
Area:	Nelson
State:	Vic
Party Manager:	Bob Stephenson
Scribe:	Russell Gregg
Client Rep:	Sam Coniglio

# Of Accidents since Last Meeting. Vehicles	0
# Of Accidents Since Last Meeting. Employees	0
# Of Compensation Claims Since Last Meeting.	0
# Of LTI'S Since Last Meeting.	0

Details:

This meeting was held at the Trace Energy Services Breakfast eating area, at the Bp petrol station  
In Nelson.

2. Bob Stephenson the Crew addressed the crew on how the survey is going and asked the crew to keep up the good work in the difficult conditions and terrain in which the survey area is found.
2. Russell Gregg the crews Safety officer then addressed the crew on the following topics.
  - The importance of setting up Road crossings and only doing them when all the correct signage is in place and also only when correct PPE is being worn as vision is the main Safety factor when doing crossings, also communication between the stop slow operators and the people putting down or pulling up the road crossings is essential.  
Remember that your Safety and that of the Public is the first priority.
  - Also it has been noted that there was a trip fall accident yesterday where a crewmember fell to the ground, no injury resulted from this incident only injured



pride, so the crew was made aware of the possibility of trips and falls and they were asked to ensure that they watch their footing especially when laying spread through the hand carries and near the river crossings.

- The crew was asked to ensure that when eating at nights to ensure that a driver is picked to drive back to the caravan park and not consume any Alcohol.
  - The crew and contractors were once again notified of Trace Energy's Alcohol and Drug Policy and that Random tests would take place, Remember 0% is required to go to work for both of these. People found to be disobeying this Policy will be stood down and face disciplinary actions.
  - The crew was notified that extra wet weather gear has been bought and can be found in the Hino Truck that is out on line.
  - Reminder that seatbelts are to be worn at all times.
  - Care to be taken when going to and from work especially on this long weekend.
3. Joel Carry then talked to the crew on some line related details.
  4. Leeton McHugh Traces line boss then reemphasized on what the Safety Officer had noted about the Road Crossings.

Trace Energy Services Personnel:

R.Stephenson, J.Phillipson, R.Gregg, P.Odonnell, N.Grainger. D.Viney S.Goossens,  
J.Goossens, D.Postans,A.Bann, S.Beneke, S.Davidson, S.Toll, L.Goold, J.Keane,  
F.Hicks, E.Burton, M.Robinson, D.Rea, L.Shuttleworth, C.Betteridge,R.Auchram,  
B.Humpries,T.Hutchinson, T.Earnst, L.McHugh, J.Turner. S.Toll, M.Bann, D.Hildred,  
J.Carry, T.Carry, P.Armstrong, A.Pippos, M.Lynham, J.Pope, N.Byrne, and Ron  
Weeks from DSS

Client Personnel:

Sam Coniglio.

**SAFETY MEETING REPORT**

Date:	01-06-03
Client:	Essential Petroleum
Prospect:	2003 Nelson Survey
Area:	Nelson
State:	Vic
Party Manager:	Paul Armstrong
Scribe:	Russell Gregg
Client Rep:	Sam Coniglio

# Of Accidents since Last Meeting. Vehicles	0
# Of Accidents Since Last Meeting. Employees	0
# Of Compensation Claims Since Last Meeting.	0
# Of LTI'S Since Last Meeting.	0

**Details:**

This meeting was held at the Trace Energy Services Breakfast eating area, at the Bp petrol station  
In Nelson.

3. Paul Armstrong the Crew Manager addressed the crew on how the survey is going and asked the crew to keep up the good work. In addition, to be aware of the road works today as the vibes will be shaking along the road, and if they can continue doing the same job as they had the previous day there should be no problem.
2. Russell Gregg the crews Safety officer then addressed the crew on the following topics.
  - Thanked the the crew for the work that they have been doing along the road and that it is going very well and safely but there is always room for improvement.
  - The crew were then told of the incident free week we have had and that no incidents or near misses reported, the crew was asked that if they do come across a potential threat or are involved with a near miss please report it as that is how things can be fixed and made safer for everyone.
  - The crew was asked to ensure that when eating at nights to ensure that a driver is picked to drive back to the caravan park and not consume any Alcohol.
  - Reminder that seatbelts are to be worn at all times.
3. Sam Coniglio then addressed the crew thanking them for the safe work procedures that the crew follow, and also asked the crew to report all near misses etc ass this is very important for Safety.
- 4, Joel Carry then talked to the crew on some line related details.

Trace Energy Services Personnel:

J.Phillipson, R.Gregg, P.Odonnel, N.Grainger. D.Viney S.Goossens, J.Goossens,  
D.Postans,A.Bann, S.Beneke, S.Davidson, S.Toll, L.Goold, J.Keane, F.Hicks,  
E.Burton, M.Robinson, D.Rea, L.Shuttleworth, C.Betteridge,R.Auchram,  
B.Humpries,T.Hutchinson, T.Earnst, L.McHugh, J.Turner. S.Toll, M.Bann, D.Hildred,  
J.Carry, T.Carry, P.Armstrong, A.Pippos, M.Lynham, J.Pope, N.Byrne,

Client Personnel:  
Sam Coniglio.

**SAFETY MEETING REPORT**

Date: 08-06-03

Client: Essential Petroleum

Prospect:	2003 Nelson Survey
Area:	Nelson
State:	Vic
Party Manager:	Paul Armstrong
Scribe:	Russell Gregg
Client Rep:	Sam Coniglio

# Of Accidents since Last Meeting. Vehicles	0
# Of Accidents Since Last Meeting. Employees	0
# Of Compensation Claims Since Last Meeting.	0
# Of LTI'S Since Last Meeting.	0

#### Details:

This meeting was held at the Trace Energy Services Breakfast eating area, at the Bp petrol station  
In Nelson.

4. Paul Armstrong the Crew Manager addressed the crew on how the survey is going and asked the crew to keep up the good work. In addition, to be aware of extra traffic for the next couple of days as it is along weekend, and the traffic is likely to be heavier.
2. Russell Gregg the crews Safety officer then addressed the crew on the following topics.
  - Thanked the the crew for the work that they have been doing when laying and picking up spread on the main road as the weather has been very harsh and the traffic very heavy at times.
  - The crew were then told of the incident free week we have had and that no incidents and only one near miss when a vehicle slid into a hole. It was asked that the crew flag obstacles like this when they come across them and use the radio and pass on this type of information.
  - The crew was asked to ensure that when eating at nights to ensure that a driver is picked to drive back to the caravan park and not consume any Alcohol.
  - Reminder that seatbelts are to be worn at all times.
  - \* The crew were once again warned and informed on the Trace Energy Alcohol and Drug guidelines, and that they will be policed and enforced.
3. Sam Coniglio then addressed the crew thanking them for the safe work procedures that the crew follow, and also asked the crew to report all near misses etc ass this is very important for Safety.
- 4, Joel Carry then talked to the crew on some line related details.

#### Trace Energy Services Personnel:

J.Phillipson, R.Gregg, P.Odonnel, N.Grainger. D.Viney S.Goossens, J.Goossens, D.Postans,A.Bann, S.Beneke, S.Davidson, S.Toll, L.Goold, J.Keane, F.Hicks, E.Burton, M.Robinson, D.Rea, L.Shuttleworth, C.Betteridge,R.Auchram,

B.Humphries, T.Hutchinson, T.Earnst, L.McHugh, J.Turner, S.Toll, M.Bann, D.Hildred,  
J.Carry, T.Carry, P.Armstrong, A.Pippos, M.Lynham, J.Pope, N.Byrne,

Client Personnel:  
Sam Coniglio.

Date:	15-06-03
Client:	Essential Petroleum
Prospect:	2003 Nelson Survey
Area:	Nelson
State:	Vic
Party Manager:	Bob Stephenson
Safety Officer:	Russell Gregg
Client Rep:	Sam Coniglio

# Of Accidents since Last Meeting. Vehicles	0
# Of Accidents Since Last Meeting. Employees	0
# Of Compensation Claims Since Last Meeting.	0
# Of LTI'S Since Last Meeting.	0

#### Details:

This meeting was held at the Trace Energy Services Breakfast eating area, at the Bp petrol station  
In Nelson.

5. Bob Stephenson the Crew Manager, explained to the crew that all vehicles must be filled at the end of today as the fuel truck is being taken into Mt Gambier to be worked on for two days.  
He also warned the crew to be careful when working as the weather conditions are definitely not fine and sunny.
2. Russell Gregg the crews Safety officer then addressed the crew on the following topics.
  - Thanked the crew for the work that they have been doing with the difficult weather conditions and soft boggy terrain.
  - The crew was then told of the incident free week, except for one near miss that was reported the previous day when a cable trucker was struck by a loose take out whilst pulling on cable, this has happened in the past and the only way to cure it is that the cable truckers and the cable repair man tape or zip tie the takeouts to the cable when they come across loose ones, also the best time to do this is when the cable is being reloaded back on to the transport trucks, but when pulling cable be aware of this obstacle, clear safety glasses will be bought tomorrow this will stop any loose takeouts or wet sand being flicked up and making contact with unprotected eyes.
  - The crew was asked to ensure that when eating at nights to ensure that a driver is picked to drive back to the caravan park and not consume any Alcohol.
  - Reminder that seatbelts are to be worn at all times.
- \* The crew were once again warned and informed on the Trace Energy Alcohol and Drug guidelines, and that they will be policed and enforced.

- It was asked that speed limits be adhered to and drivers drive to the weather and road conditions, there is no need to speed and do silly things in vehicles.
  - The crew was reminded that the job is nearly finished and to be sure not to let complacency in as this is when most accidents occur and people get hurt.
6. Sam Coniglio then addressed the crew thanking them for the safe work procedures that the crew follow, and also asked the crew to report all near misses etc as this is very important for Safety.  
He also reemphasized the point of letting complacency set in.
3. Joel Carry then talked to the crew on some line related details.

Trace Energy Services Personnel:

J. Phillipson, R. Gregg, B. Stephenson, N. Grainger, D. Viney, S. Goossens, J. Goossens,  
D. Postans, A. Bann, S. Beneke, G. Dunn, S. Toll, L. Gool, J. Keane, F. Hicks, E. Burton,  
M. Robinson, D. Rea, L. Shuttleworth, C. Betteridge, R. Auchram,  
B. Humpries, T. Hutchinson, T. Earnst, L. McHugh, J. Turner, S. Toll, M. Bann, D. Hildred,  
J. Carry, T. Carry, A. Pippas, M. Lynham, J. Pope, N. Byrne,

Client Personnel:  
Sam Coniglio.

**Trace Energy Services**  
**Toolbox Meetings**  
**Essential 03**

**Monday the 12<sup>th</sup> of May 2003.**

The Topic of today's toolbox meeting is as follows.

Planning into the Roadwork's that the crew will be doing first up this morning, speeding logging trucks were talked about also the extra signs that will be put up, before we even start, and that if needed we will have a vehicle actually following the crew along the road to act as early warning vehicle.

It was mentioned that on the next line after it was scouted that there is a very high chance that the Vibrators will become bogged and make a mess, this is a concern. Because this portion of line is in the National Park.

The Birdog asked the Vibrators to continue and see how they go and if needed a dozer can be bought in.

The Vibrator mechanic was asked that if he finds that the vibes may make a mess they are to stop, as we do not want to be responsible for environmental damage.

**Tuesday the 13<sup>th</sup> of May 2003.**

The topics discussed at this morning's toolbox meeting are as follows.

The crew was asked to make sure that if they do not know something to contact the Recorder as a mistake by one of the cable truckers caused a lot of downtime as nearly a whole line needed to be pulled up.

The Vibrators were asked to let down their tyre pressures as this may leave less impact in the National Park.

The crew were warned to be on the lookout for logging trucks on the lines as they have been seeing moving very fast on some of the tracks which the lines are laid out on.

### **Wednesday the 14<sup>th</sup> of May**

This mornings topics are as follows

The line crew will be staying in town today on standby they are not to disappear as they will be called on at some time during the day, the rest of the crew are to take care whilst travelling out to work today as the fog seems to be set in and is thick.

The people doing the river crossing are to ensure that the boat has enough life vests before going onto the river. They are also to make sure that the cable is sunk to the bottom of the River.

### **Thursday the 15<sup>th</sup> of May.**

This mornings topics were as follows.

The crew was asked only to take one empty cable truck onto the line where the vibes became bogged and if needed only drive up to the boggy sections and hand carry the rest, as there is a major concern that the bogging areas may affect how rainfall will dissipate in the areas which in the future may cause environmental damage.

It was brought to the crews attention that the line would be treacherous and that the vibes would become bogged but the client representative insisted that the line be shot.

The crew was asked to ensure that all roadwork's signs were up and in place before the crew start picking up on the road line.

### **Friday the 16<sup>th</sup> of May.**

This mornings topics were as follows.

The Aboriginal Induction that the crew went to yesterday was discussed and the crew were reminded to take care not to damage any sites if they come across any.

The crew was also asked to take care and ensure that all roadwork's signs are emplaced before commencing work.

It was also asked that more people be made available to nail down the cable Matts to the road, as this will quicken the time that the crew are on the road and put at risk.

The Aboriginal tribal group that inducted the crew yesterday were known as the Windamarra.

### **Saturday the 17<sup>th</sup> of May.**

This mornings topics were as follows.

The crew were once more asked to take care whilst on the roads as it is a long weekend in South Australia and likely hood of extra traffic is high, remember if you are not visible on the roads such as having signs up and beacons flashing and high visibility jackets traffic is not expecting to see you. In addition, the chances of being hit by a vehicle increases.

### **Sunday the 18<sup>th</sup> of May.**

No toolbox meeting this morning as the Weekly Safety Meeting was held.

### **Monday the 19<sup>th</sup> of May.**

The topics of this meeting were as follows.

The crew were warned to take care today, as it is more than likely going to be a wet dark one by the looks of the weather.

Care must be taken on the roads and near riverbanks, especially when putting down and pulling up road crossings.

The crew was told about the incident that occurred yesterday where the PC rear door was left open and another vehicle backed into, in this instance the door can still close but is bent that much out of shape that it is nearly totalled, what if that door had been a crewmember.

So in future or vehicle doors are to be shut when not occupied and as has been said and explained and drummed into the crew take care when reversing and if not sure what is behind you get out and have a look.

#### **Tuesday the 20<sup>th</sup> of May.**

The topics of this meeting are as follows.

The crew were once again asked to show care whilst doing road crossings and also to be aware of another obstacle and that is that a new lot of trucks are using the pine forest as access so be aware of that when doing crossings as they may appear on the highway missing the signs and not know that you are there.

#### **Wednesday the 21<sup>st</sup> of May.**

The topics of this mornings meeting are as follows.

The main topic as usual was the road crossings, more care and better planing is asked of the crew as yesterdays effort was not the best, the traffic was held up way to long, the main reason to this was insufficient numbers of crew helping lay the matts, it is asked that more crew members be made available to help put them in.

#### **Thursday the 22<sup>nd</sup> of May**

The topics of this mornings meeting are as follows.

The crew were thanked on there effort on the road crossings yesterday, it was also asked of the crew to remember to wear seatbelts at all times, as we all know this is company policy and is put there for your safety.

The crew was asked to take care when leaving for the field this morning as it is foggy and visibility will be low, only do road crossings when the visibility improves enough to do it safely.

#### **Friday the 23<sup>rd</sup> of May.**

The topics of this mornings meeting was as follows.

Bob Stephenson the crew manager thanked the crew for doing a good and safe job and asked if they could keep it up, he also explained that he was leaving the crew for break and that Paul Armstrong would be taken over.

The road crossings were also talked about as usual and that care are taken with them.

#### **Saturday the 24<sup>th</sup> of May.**

This mornings meetings topics were as follows.

The crew were informed of an incident that happened yesterday where a crewmember was taken to hospital after first aid to have a metal filing removed from under eyelid.

The main cause of this incident was that the crew member was not wearing appropriate PPE, after the victim had received treatment from the safety officer and the filing was removed form actual eye, the victim still claimed to have pain and so was taken to hospital where another filing was found under his eyelid, fortunately there was no serious damage done to eye, so victim returned to work when arriving back from hospital.

#### **Sunday the 25<sup>th</sup> of May**

There was no toolbox meeting held this morning as the weekly Safety Meeting took place.

**Monday the 26<sup>th</sup> of May.**

This mornings meetings topics were as follows.

The crew were once again warned that the traffic would be raised again as the weekend is over and the trucking companies will start running again, so it is important that road crossings are done correctly and fast.

**Tuesday the 27<sup>th</sup> of May.**

This mornings topics were as follows.

Once again the crew were warned on the importance of doing the roadwork's efficiently. The crew also talked about wearing appropriate ppe and having it ready and nearby, seatbelts were mentioned, as they are to be.

**Wednesday the 28<sup>th</sup> of May.**

This mornings topics are as follows.

As usual the main topic was the road crossings and the importance of doing them safely and having all the correct signs erected and all crewmembers wearing the appropriate PPE.

It was also mentioned that crewmembers should take extra care when turning around on the main road and not to do u turns on double white lines.

**Thursday the 29<sup>th</sup> of May.**

This mornings topics are as follows.

A near miss was mentioned that whilst doing putting up road works signs the safety officer was nearly ran over by a truck as its wheel came off the road and onto the verge near where he was standing.

Road works were also mentioned as well as the crew taking care and drive to the weather conditions as it looks like we could be in for some nasty weather over the next week.

**Friday the 30<sup>th</sup> of May.**

This mornings meetings topics were as follows.

Roadworks were the main topic; it was asked that more nails and washers be purchased as they are being used up very fast.

**Saturday the 31<sup>st</sup> of May.**

This mornings meetings topics were as follows.

Roadworks and traffic control were talked about today especially with the bad weather and constant rain that we are facing.

**Sunday the 1<sup>st</sup> of June.**

There was no toolbox meeting held this morning as the weekly Safety Meeting was held instead.

**Monday the 2<sup>nd</sup> of June.**

This mornings meeting topics were as follows.

The crew and vibes will be working along the road this morning so extra care and vigilance will be needed for everybody's safety, but remember if all is done correctly there should be no reason for concern.



**Tuesday the 3<sup>rd</sup> of June.**

This mornings meeting topics were as follows

The crew were thanked for the safe work that happened yesterday and with good production as well.

It was asked that if the cable truckers could be prepared to move faster when laying cable along side the road.

**Wednesday the 4<sup>th</sup> of June.**

This mornings meeting topics were as follows.

The working along the road and laying spread along it should nearly be over by lunchtime today; so far it has gone extremely well but keep up the safe work.

The crew have been facing some very heavy rainfalls and extremely high winds and still the trucks keep flying down the road, it has been a no miracle that no Trace member has been run over or hit by a truck just good forward planning and always expecting the unexpected.

**Thursday the 5<sup>th</sup> of June**

This mornings meeting topics were as follows.

The will be facing another wet and windy day so ensure to drive to the road conditions with lights on and seatbelts on.

When picking up from the roadside ensure traffic control is set up before doing so, if needed to cut down excess radio traffic you may be required to change channels so all road work information can be passed along without affecting the production channels.

**Friday the 6<sup>th</sup> of June.**

This mornings meeting topics were as follows.

The crew were notified of a traffic accident involving a truck rolling over the previous day approximately ten kilometres from the end of our roadworks.

Unfortunately the female truck driver died from her injuries, so there is the warning from the crew that this is an extremely dangerous road in which we are working on, so keep up all the high safety standards that we have held up so far throughout the contract and always expect the unexpected when working on the road and we will all come home at night.

**Saturday the 7<sup>th</sup> of June.**

This mornings meeting topics were as follows.

Today we should be completely of the main road between Nelson and Mt Gambier but still be on the lookout on the quitter roads as you wont expect much traffic and the road users wont expect you there either.

Also a near miss incident was reported where a Trace vehicle became stuck and on an angle where it might have rolled over, the main reason was that the line that the crew are working on has very large well hidden holes on it, so if you come across a bad patch of ground report it and flag it so no other crewmember comes along it unexpectedly.

**Sunday the 8<sup>th</sup> of June**

There was no Toolbox held this morning as the Sunday Safety Meeting was held.

**Monday the 9<sup>th</sup> of June.**

This mornings topics were as follows.

The crew were thanked for the outstanding job that they have done on the main roads, everything was done safely and efficiently.

The crew are now doing most of there laying on the northern side of the river, please be careful when driving along the roadwork's that they are fixing on the way to Donovan's and also take care on the other roads as the logging trucks use these for access.

### **Tuesday the 10<sup>th</sup> of June.**

This mornings topics were as follows.

The crew are to be extra careful when laying cables and phones down to the river crossings as many of these are clay tracks and when wet are slippery and with the weather we are having they are due to be wet at all times, please remove any rubbish that is in the vehicles nightly.

### **Wednesday the 11<sup>th</sup> of June.**

This mornings topics were as follows.

The crew were notified that some of the river crossing area are camping areas, so please be considerate with noise and lay cable and Geophones as far away from campers as possible, also beware of the slippery roads and use 4wd as soon as you leave the bitumen.

### **Thursday the 12<sup>th</sup> of June.**

This mornings topics were as follows

Could all crewmembers report any boggy areas as well as areas where logs have fallen over tracks, as this will save time and hopefully stop other crewmembers becoming bogged or blocked off.

Please remember to pick up all pin flag and pegs when asked to.

### **Friday the 13<sup>th</sup> of June.**

This mornings topics were as follows.

Even for the superstitious minded people on crew if you follow procedures there should be no incidents if there is however report them, it has been a long hitch but there is light at the end of the tunnel now so don't let complacency set in as this is when incidents will occur, also do not walk under any ladders today.

### **Saturday the 14<sup>th</sup> of June.**

This mornings topics were as follows.

All vehicle problems to be reported immediately to mechanics, 4wd to be used so we do not damage the roads any more than they are, you are not a hero if you don't use 4wd you only stuff up the vehicle damage the terrain and put yourself and passenger at risk.

### **Sunday the 15<sup>th</sup> of June.**

There was no toolbox this morning as the Sunday Safety meeting was held instead.

### **Monday the 16<sup>th</sup> of June.**

This mornings topics were as follows.

The crew were once again reminded not to become complacent and to look out for each other and themselves as the light at the end of the tunnel is becoming brighter and no one wants to take an injury or worse home for break, the weather is still foul but the crew is doing an excellent job still in the bad conditions.

**Tuesday the 17<sup>th</sup> of June.**

This mornings topics were as follows.

The cable trucks are planning to move a lot of spread today over quite a fair distance, please take care not to overload trucks and keep speeds down to a safe limit, remember drive to the conditions and as you can see it is wet so the roads will be wet and slippery.

**Wednesday the 18<sup>th</sup> of June.**

This mornings topics were as follows.

The crew had a great day yesterday all crewmembers were thanked and reminded to keep up the good safe working methods that they have shown throughout the whole contract, remember to use 4wd and to take the vehicle out of 4wd when on the bitumen.

**Thursday the 19<sup>th</sup> of June.**

This mornings topics were as follows.

The crew were asked that if the last vehicle in at night could notify the safety officer as the crew are travelling in the dark from the othersider of the prospect this way every body is accounted for, the crew were reminded to make sure that all pin flags and pegs are picked up.

**Friday the 20<sup>th</sup> of June.**

This mornings topics were as follows.

The crew were reminded to take great care not to let complacency set in as the contract should be over in the next few days, and it will be great to continue with the excellent safety record that we have had throughout the whole contract.

**Saturday the 21<sup>st</sup> of June.**

This mornings topics were as follows.

Hopefully weather providing this should be the last day of production and all that will be left is to pick up the spread, the crew were thanked by the client rep and the crew manager for doing a great job safely and reminded to still maintain a safety aspect in the next few days as we pick up the spread, it only takes a few seconds of foolishness for some one to become hurt.

**CREW LIST**

BOB STEPHENSON	CREW MANAGER
PAUL ARMSTRONG	CREW MANAGER
TIM CARRY	SYSTEM ENGINEER
RUSSELL GREGG	SAFETY OFFICER
JOEL CARRY	OBSERVER
PETER O'DONNELL	OBSERVER
NOEL GRAINGER	CABLE REPAIR
LEETON McHUGH	LINE BOSS
JON TURNER	LINE CHECKER
JOHN PHILIPPSON	SNR MECHANIC
BRENDAN OLSZOWY	MECHANIC
SHANE GOOSSENS	LEAD VIB OPP
ABBY BANN	VIB OPP
SHANE BENEKE	VIB OPP
DES POSTANS	VIB OPP
SIMON DAVIDSON	VIB OPP
TERRY ERNST	LINE CREW
LIZ GOOLD	LINE CREW
JOE KEANE	LINE CREW
LIAM SHUTTLEWORTH	LINE CREW
EMMA BURTON	LINE CREW
JULIEN GOOSSENS	LINE CREW
BEN HUMPHRIES	LINE CREW
FIONA HICKS	LINE CREW
DARREN REA	LINE CREW
RAY AUCKRAM	LINE CREW
MAT ROBINSON	LINE CREW
CHARLES BETTERIDGE	LINE CREW
MEGAN BANN	LINE CREW
SIMON TOLL	LINE CREW
DEL HILDRED	LINE CREW
NICKY BYRNE	LINE CREW
ADAM PIPPOS	LINE CREW
JUSTIN POPE	LINE CREW
MILINDA LYNHAM	LINE CREW
DENNIS VINEY	LINE CREW
TONY HUTCHISON	LINE CREW
GREGG DUNN	MECHANIC

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401

DATE..... 14-Jun-03

Client..... Essential Petroleum  
 Survey Name. 2003 Nelson Seismic Survey  
 Area..... PEP 151  
 State..... Victoria

Party Manager. Bob Stephenson  
 Client Rep..... Sam Coniglio  
 Weather..... Showers

RECORDING					Kms.	SKIPS	PROFILES	TOTALS
Source Line	104	Rec	699.5	Rec	741.5	1.050	41	Profiles..... 243
Source Line	<b>R 121</b>	Rec	158.5	Rec	208.5	1.300	27	Skips..... 9
Source Line	121	Rec	209.5	Rec	268.5	1.475	49	Kms..... 7.000
Source Line	<b>R 121</b>	Rec	210.5	Rec	251.5	1.025	41	Cum Kms.. 207.925
Source Line	104	Rec	785.5	Rec	699.5	2.150	85	

HOOURS	Travel Time.....	<b>0.90</b>	Down Time -	Extra Charges	
	Test Time.....	<b>0.10</b>	Recorder.....	Extra Hrs.....	0.00
	Recording Time...	<b>2.90</b>	Cables.....	Detours Charge Hrs	0.00
Other Time	Line Change.....	<b>0.20</b>	ATU's.....	Washdowns.....Hrs	0.00
	Recorder Move..	<b>0.50</b>	Detours/Terr...	Extra Other Charge..	0.00
	Detours/Terrain.	<b>1.00</b>	W / on Spread.	Total Extra.....Hrs	0.00
	Experimental...		Stock Damage	Total Extra(Job).Hrs	0.00
	Other Charge...		Coms. Problem	Processing Hrs.....	0.00
	QC Spread .....	<b>4.70</b>			
	Weather Time...				
	Shut Down Rec,	<b>0.50</b>	Total Down Time.....	0.30	Total Day.....Hrs 11.40
	Safety Meeting..	0.30	Cum. Down Time (Job)	24.40	Total Hrs (Job)..... 377.90

COMMENTS: **Total Charge Hrs 10.8 hrs at Full Rate**  
**Front Crew Line 129 stn 427-336, LINE 102 STN 783-786, Line 135 stn 445-532, Line 112 stn 99-225, Total 382 stn.**  
**Back Crew Line 104 stn 476-597, Line 102 stn 345-459, Line 213 stn 154-260, Total 341 stn.**

SURVEY					
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.	Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....	310.600

CHAINING					
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.	Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....	0.000

RANGING		COMMENTS :			
Line No.....	Kms				
Line No.....	Kms				
Line No.....	Kms			Total Kms.....	0.000
Line No.....	Kms			Cum. Kms. (Job).....	0.00

LINE CLEAR					
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms.....	0.000
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours.....	0.00
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job).....	0.00

DRILLING					PRE LOADING			
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges
Total # Mtr.....	0.00	Cum # Mtr(Job).....	0.00	Total # Holes.....	0	Cum #Holes(Job)		0
Total Drilled.....	0.00	Cum Drilled(Job)..	0.00	Total Dets.....	0	Cum Dets(Job)		22
Total Hrs.....	0.00	Total # Hrs(Job).....	0.00	Total Charges	0	Total # Charges(Job)		1010

COMMENT

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401 DATE..... 13-Jun-03

Client.....	Essential Petroleum	Party Manager.	Bob Stephenson
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Rain / Hail
State.....	Victoria		

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	104	Rec	574.5	Rec	699.5	3.125	0	124	Profiles.....	124
Source Line		Rec		Rec					Skips.....	0
Source Line		Rec		Rec					Kms.....	3.125
Source Line		Rec		Rec					Cum Kms..	200.925
Source Line		Rec		Rec						

HOURS	Travel Time.....	0.30	Down Time -		Extra Charges		
	Test Time.....	0.10		Recorder.....	Extra Hrs.....	0.00	
	Recording Time...	1.40		Cables.....	0.10	Detours Charge Hrs	0.00
Other Time	Line Change.....			ATU's.....		Washdowns.....Hrs	0.00
	Recorder Move..	0.30		Detours/Terr...		Extra Other Charge..	0.00
	Detours/Terrain.			W / on Spread.		Total Extra.....Hrs	0.00
	Experimental...			Stock Damage		Total Extra(Job).Hrs	0.00
	Shut Down Rec.	0.50		Other.....		Processing Hrs.....	0.00
	QC Spread ....	3.70					
	Weather Time...	3.70					
	Stock Damage..			Total Down Time.....	0.10	Total Day.....Hrs	10.40
	Safety Meeting..	0.30		Cum. Down Time (Job)	24.10	Total Hrs (Job).....	366.50

COMMENTS: **Total Charge Hrs 6.3hrs at Full Rate, 3.7 Hrs at Standby Rate.**  
**Front crew Line 102 stn 298-345, Line 104 stn 424-475, Line 109 stn 214-341, Total 225stn.**  
**Back Crew Line 102 stn 704-783, Total 79stn.**

SURVEY					
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.	Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....	310.600

CHAINING					
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.	Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....	0.000

RANGING	COMMENTS :				
Line No.....	Kms				
Line No.....	Kms				
Line No.....	Kms			Total Kms.....	0.000
Line No.....	Kms			Cum. Kms. (Job).....	0.00

LINE CLEAR					
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms.....	0.000
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours.....	0.00
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job).....	0.00

DRILLING					PRE LOADING			
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges
Total # Mtr.....	0.00	Cum # Mtr(Job).....	0.00	Total # Holes.....	0	Cum #Holes(Job)	0	
Total Drilled.....	0.00	Cum Drilled(Job)..	0.00	Total Dets.....	0	Cum Dets(Job)	22	
Total Hrs.....	0.00	Total # Hrs(Job).....	0.00	Total Charges	0	Total # Charges(Job)	1010	

COMMENT

TRACE ENERGY SERVICES									
DAILY PRODUCTION REPORT									

CREW 401 DATE..... 12-Jun-03

Client.....	Essential Petroleum	Party Manager.	Bob Stephenson
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Rain
State.....	Victoria		

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	109	Rec	295.5	Rec	341.5	1.150	9	37	Profiles.....	373
Source Line	102	Rec	390.5	Rec	540.5	3.750	4	146	Skips.....	27
Source Line	117	Rec	259.5	Rec	101.5	3.950	12	147	Kms.....	9.975
Source Line	119	Rec	103.5	Rec	148.5	1.125	2	43	Cum Kms..	197.800
Source Line		Rec		Rec						

HOURS	Travel Time.....	0.30	Down Time -	Extra Charges	
	Test Time.....	0.30	Recorder.....	Extra Hrs.....	0.00
	Recording Time...	4.20	Cables.....	Detours Charge Hrs	0.00
Other Time	Line Change.....	0.50	ATU's.....	Washdowns.....Hrs	0.00
	Recorder Move..		Detours/Terr...	Extra Other Charge..	0.00
	Detours/Terrain.	0.10	W / on Spread.	Total Extra.....Hrs	0.00
	QC Spread .....	2.80	Stock Damage	Total Extra(Job).Hrs	0.00
	Other Charge...		Other.....	Processing Hrs.....	0.00
	Wait on Spread.				
	Weather Time...	2.30			
	Stock Damage..		Total Down Time.....	0.00	Total Day.....Hrs 10.80
	Safety Meeting..	0.30	Cum. Down Time (Job)	24.00	Total Hrs (Job)..... 356.10

COMMENTS:	<p>Total Charge Hrs 8.2 hrs at full rate, 2.3hrs at standby rate.</p> <p>Front Crew Line 119 stn 103-148, Line 104 stn 748-867, Line 121 stn 121-346, Line 117 stn 101-259, Line 106 stn 315-159, Line 127 stn 101-167, Line 102 stn 641-702, Total 830 stn.</p> <p>Back Crew Line 104 stn 94-423, line 105 stn 81-204, line 213 stn 101-153, line 109 stn 127-213, Total 590 stations.</p>
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SURVEY					
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.	Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....	310.600

CHAINING					
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.	Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....	0.000

RANGING		COMMENTS :
Line No.....	Kms	
Line No.....	Kms	
Line No.....	Kms	Total Kms..... 0.000
Line No.....	Kms	Cum. Kms. (Job)..... 0.00

LINE CLEAR					
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms.....	0.000
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours.....	0.00
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job).....	0.00

DRILLING					PRE LOADING			Elect Dets	
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....		0	Cum Dets(Job)	22
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges		0	Total # Charges(Job)	1010

COMMENT
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# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE..... 11-Jun-03	
Client.....		Essential Petroleum				Party Manager.		Bob Stephenson			
Survey Name.		2003 Nelson Seismic Survey				Client Rep.....		Sam Coniglio			
Area.....		PEP 151				Weather.....		Fine			
State.....		Victoria									

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	109	Rec	220.5	Rec	295.5	1.875	5	70	Profiles.....	118
Source Line	104	Rec	526.5	Rec	574.5	1.200	0	48	Skips.....	5
Source Line		Rec		Rec					Kms.....	3.075
Source Line		Rec		Rec					Cum Kms..	187.825
Source Line		Rec		Rec						

HOURS	Travel Time.....		0.30	Down Time -				Extra Charges		
	Test Time.....		0.20	Recorder.....				Extra Hrs.....	0.00	
	Recording Time...		1.30	Cables.....				Detours Charge Hrs	0.00	
	Other Time	Line Change.....		0.10	ATU's.....		0.20	Washdowns.....Hrs	0.00	
		Recorder Move..		0.40	Detours/Terr...			Extra Other Charge..	0.00	
		Detours/Terrain.			W / on Spread.			Total Extra.....Hrs	0.00	
		QC Spread		7.50	Stock Damage			Total Extra(Job).Hrs	0.00	
	Other Charge...			Other.....			Processing Hrs.....	0.00		
	Wait on Spread.		0.70							
	Weather Time...									
	Shut Down		0.20	Total Down Time.....		0.20	Total Day.....Hrs	11.20		
	Safety Meeting..		0.30	Cum. Down Time (Job)		24.00	Total Hrs (Job).....	345.30		

**COMMENTS:**  
**Total Charge 10.7 hrs at full rate.**  
**Front crew Line 102 stn 521-640, Line 104 stn 648-747, Total 218 stns.**  
**Back crew Line 102 stn 296-90, Total 206 stns.**

SURVEY									
Line No.....	STN..	STN..	Kms.						
Line No.....	STN..	STN..	Kms.						
Line No.....	STN..	STN..	Kms.						
Line No.....	STN..	STN..	Kms.	Total Kms.....					0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....					310.600

CHAINING									
Line No.....	STN..	STN..	Kms.						
Line No.....	STN..	STN..	Kms.						
Line No.....	STN..	STN..	Kms.						
Line No.....	STN..	STN..	Kms.	Total Kms.....					0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....					0.000

RANGING									
COMMENTS :									
Line No.....	Kms								
Line No.....	Kms								
Line No.....	Kms	Total Kms.....					0.000		
Line No.....	Kms	Cum. Kms. (Job).....					0.00		

LINE CLEAR									
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms.....		0.000			
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job).....		0.000			
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours.....		0.00			
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job).....		0.00			

DRILLING					PRE LOADING					
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges		
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges		
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges		
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges		
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges		
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges		
Total # Mtr.....		0.0	Cum # Mtr(Job).....		0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job).....		0.0	Total Dets.....		0	Cum Dets(Job)	22
Total Hrs.....		0.0	Total # Hrs(Job).....		0.0	Total Charges		0	Total # Charges(Job)	1010

**COMMENT**



# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401				DATE..... 10-Jun-03				
Client.....	Essential Petroleum				Party Manager.	Bob Stephenson		
Survey Name.	2003 Nelson Seismic Survey				Client Rep.....	Sam Coniglio		
Area.....	PEP 151				Weather.....	Fine		
State.....	Victoria							

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	105	Rec	159.5	Rec	81.5	1.975	1	78	Profiles.....	312
Source Line	104	Rec	526.5	Rec	425.5	2.550		102	Skips.....	23
Source Line	104	Rec	187.5	Rec	244.5	1.475	5	53	Kms.....	8.400
Source Line	102	Rec	295.5	Rec	390.5	2.400	17	79	Cum Kms..	184.750
Source Line		Rec		Rec						

HOURS	Travel Time.....	0.30	Down Time -					Extra Charges		
	Test Time.....	0.10					Recorder.....	Extra Hrs.....	0.00	
	Recording Time...	3.70					Cables.....	0.10	Detours Charge Hrs	0.00
	Other Time	Line Change....	1.40				ATU's.....		Washdowns.....Hrs	0.00
		Recorder Move..					Detours/Terr...		Extra Other Charge..	0.00
		Detours/Terrain.	0.60				W / on Spread.		Total Extra.....Hrs	0.00
		Communication delay	0.10				Stock Damage		Total Extra(Job)..Hrs	0.00
		Other Charge...	0.20				Other.....		Processing Hrs.....	0.00
		QC Spread .....	3.70							
		Bogged Vibe ...	0.50							
		Shut Down .....	0.20			Total Down Time.....	0.10		Total Day.....Hrs	11.20
		Safety Meeting..	0.30			Cum. Down Time (Job)	23.80		Total Hrs (Job).....	334.10

COMMENTS: **Total Charge Hrs 10.8 hrs at full rate**  
**Front crew, line 104 stn 525 - 647, line 102 stn 370 - 520, line 117 stn 101 - 259 total 433 stns**  
**Back crew, line 101 stn 406 - 650 , line 108 stn 115 - 297 total 428 stns**  
**NOTE: Other charge is .2 hr for discussing how to shoot around soft spots.**

SURVEY										
Line No.....		STN..		STN..		Kms.				
Line No.....		STN..		STN..		Kms.				
Line No.....		STN..		STN..		Kms.				
Line No.....		STN..		STN..		Kms.		Total Kms.....	0.000	
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	310.600	

CHAINING										
Line No.....		STN..		STN..		Kms.				
Line No.....		STN..		STN..		Kms.				
Line No.....		STN..		STN..		Kms.				
Line No.....		STN..		STN..		Kms.		Total Kms.....	0.000	
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	0.000	

RANGING										
COMMENTS :										
Line No.....		Kms								
Line No.....		Kms								
Line No.....		Kms						Total Kms.....	0.000	
Line No.....		Kms						Cum. Kms. (Job).....	0.00	

LINE CLEAR										
Dozer	1	Line No.....			Kms. Cut.....		Hrs.	Total Kms.....	0.000	
Dozer	2	Line No.....			Kms. Cut.....		Hrs.	Cum. Kms. (Job).....	0.000	
Dozer	3	Line No.....			Kms. Cut.....		Hrs.	Total Hours.....	0.00	
Grader	1	Line No.....			Kms.Graded....		Hrs.	Total Hrs (Job).....	0.00	

DRILLING						PRE LOADING				
Rig No.	1	# Mtr	#Holes	Hrs		1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs		2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs		3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs		4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs		5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs		6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0		Total # Holes.....	0	Cum #Holes(Job)	0	
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0		Total Dets.....	0	Cum Dets(Job)	22	
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0		Total Charges	0	Total # Charges(Job)	1010	

COMMENT

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE..... 9-Jun-03	
Client.....		Essential Petroleum				Party Manager.		Paul Armstrong			
Survey Name.		2003 Nelson Seismic Survey				Client Rep.....		Sam Coniglio			
Area.....		PEP 151				Weather.....		Fine			
State.....		Victoria									

RECORDING					Kms.	SKIPS	PROFILES	TOTALS	
Source Line	105	Rec	375.5	Rec	205.5	4.275	27	144	Profiles..... 344
Source Line	104	Rec	252.5	Rec	424.5	4.325	1	172	Skips..... 45
Source Line	105	Rec	204.5	Rec	160.5	1.125	17	28	Kms..... 9.725
Source Line		Rec		Rec					Cum Kms.. 176.350
Source Line		Rec		Rec					

HOURS	Travel Time.....	0.50	Down Time -	Extra Charges		
	Test Time.....	0.20	Recorder.....	Extra Hrs.....	0.00	
	Recording Time...	4.80	Cables.....	0.20	Detours Charge Hrs 0.00	
	Other Time	Line Change.....	1.10	ATU's.....	Washdowns.....Hrs 0.00	
		Recorder Move..		Detours/Terr...	Extra Other Charge.. 0.00	
		Detours/Terrain.		W / on Spread.	Total Extra.....Hrs 0.00	
		Experimental...		Stock Damage	Total Extra(Job).Hrs 0.00	
		Other Charge...	0.20	Other.....	Processing Hrs..... 0.00	
		QC Spread .....	2.70			
		Bogged Vibe ...	1.00			
		Shut Down .....	0.20	Total Down Time.....	0.20	Total Day.....Hrs 11.20
		Safety Meeting..	0.30	Cum. Down Time (Job)	23.70	Total Hrs (Job)..... 322.90

**COMMENTS:**  
**Total Charge Hrs 10.7 hrs at full rate**  
**Front crew, line 101 stn 501 - 406, line 109 stn 296 - 337 total 138 stns**  
**Back crew, line 105 stn 450 - 312 total 139 stns**  
**NOTE: Other charge is .2 hr for vibs having trouble getting around corners**

<b>SURVEY</b>					
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.	Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....	310.600

<b>CHAINING</b>					
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.	Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....	0.000

<b>RANGING</b>					
Line No.....	Kms	COMMENTS :			
Line No.....	Kms				
Line No.....	Kms				
Line No.....	Kms				
		Total Kms.....	0.000		
		Cum. Kms. (Job).....	0.00		

<b>LINE CLEAR</b>					
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms.....	0.000
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours.....	0.00
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job).....	0.00

<b>DRILLING</b>				<b>PRE LOADING</b>					
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0 Cum # Mtr(Job).....		0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0 Cum Drilled(Job)..		0.0	Total Dets.....		0	Cum Dets(Job)	22
Total Hrs.....		0.0 Total # Hrs(Job).....		0.0	Total Charges		0	Total # Charges(Job)	1010

**COMMENT**

TRACE ENERGY SERVICES									
DAILY PRODUCTION REPORT									

CREW 401

DATE.....8-Jun-03

Client.....	Essential Petroleum	Party Manager.	Paul Armstrong
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Rain Showers
State.....	Victoria		

RECORDING						Kms.	SKIPS	PROFILES	TOTALS
Source Line	102	Rec	97.5	Rec	294.5	4.925	2	196	Profiles..... 271
Source Line	105	Rec	450.5	Rec	376.5	1.850		75	Skips..... 2
Source Line		Rec		Rec					Kms..... 6.775
Source Line		Rec		Rec					Cum Kms.. 166.625
Source Line		Rec		Rec					

HOURS	Travel Time.....	0.50	Down Time -		Extra Charges	
	Test Time.....	0.20	Recorder.....		Extra Hrs.....	0.00
Other Time	Recording Time...	3.70	Cables.....		Detours Charge Hrs	0.00
	Line Change.....	1.00	Vibs.....	0.20	Washdowns.....Hrs	0.00
	Recorder Move..		Detours/Terr...		Extra Other Charge..	0.00
	Detours/Terrain.		W / on Spread.		Total Extra.....Hrs	0.00
	Experimental...	0.60	Stock Damage		Total Extra(Job).Hrs	0.00
	QC Spread .....	4.40	Other.....		Processing Hrs.....	0.00
	Communication delay	0.10				
	Weather Time...	0.20				
	Shut Down .....	0.30	Total Down Time.....	0.20	Total Day.....Hrs	11.50
	Safety Meeting..	0.30	Cum. Down Time (Job)	23.50	Total Hrs (Job).....	311.70

COMMENTS:	<p>Total Charge Hrs 10.7 hrs at full rate and .3 hr at standby rate.</p> <p>Front crew, line 102 stn 370 - 450, line 104 stn 528 - 575 total 129 stns</p> <p>Back crew, line 101 stn 340 - 501 total 162 stns</p> <p>NOTE: Standby rate of .3 hr = .2 hr due to rain creating noise on spread and .1 hr due to communication problems.</p>
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SURVEY				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 310.600

CHAINING				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 0.000

RANGING		COMMENTS :
Line No.....	Kms	
Line No.....	Kms	
Line No.....	Kms	Total Kms..... 0.000
Line No.....	Kms	Cum. Kms. (Job)..... 0.00

LINE CLEAR					
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms.....	0.000
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours.....	0.00
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job).....	0.00

DRILLING					PRE LOADING			Elect Dets		
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets		# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets		# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets		# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets		# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets		# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets		# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....		0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..		0.0	Total Dets.....		0	Cum Dets(Job)	22
Total Hrs.....		0.0	Total # Hrs(Job).....		0.0	Total Charges		0	Total # Charges(Job)	1010

COMMENT
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# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE..... 7-Jun-03	
Client..... Essential Petroleum					Party Manager. Paul Armstrong						
Survey Name. 2003 Nelson Seismic Survey					Client Rep..... Sam Coniglio						
Area..... PEP 151					Weather..... Rain Showers						
State..... Victoria											

RECORDING				Kms.		SKIPS		PROFILES		TOTALS	
Source Line	101	Rec	477.5	Rec	650.5	4.350	6	168	Profiles.....	168	
Source Line		Rec		Rec					Skips.....	6	
Source Line		Rec		Rec					Kms.....	4.350	
Source Line		Rec		Rec					Cum Kms..	159.850	
Source Line		Rec		Rec							

HOURS		Travel Time.....		0.30	Down Time -		Extra Charges		
		Test Time.....		0.40	Recorder.....		Extra Hrs.....	0.00	
		Recording Time...		2.20	Cables.....		Detours Charge Hrs	0.00	
Other Time		Line Change.....			ATU's.....		Washdowns.....Hrs	0.00	
		Recorder Move..		0.80	Detours/Terr...		Extra Other Charge..	0.00	
		Detours/Terrain.		0.10	W / on Spread.		Total Extra.....Hrs	0.00	
		Experimental...			Stock Damage		Total Extra(Job).Hrs	0.00	
		QC Spread .....		3.40	Other.....		Processing Hrs.....	0.00	
		Wait on Spread.		3.40					
		Weather Time...							
		Shut Down .....		0.20	Total Down Time.....		0.00	Total Day.....Hrs	11.10
		Safety Meeting..		0.30	Cum. Down Time (Job)		23.30	Total Hrs (Job).....	300.20

COMMENTS: **Total Charge Hrs 10.8 hrs at full rate.**

**Front crew, line 102 stn 85 - 321, line 105 stn 211 - 288 total 315 stns**

**Back crew, line 111 stn 316 - 389, line 103 stn 147 - 190, line 109 stn 107 - 129, line 108 stn 453 - 298 total 297 stns**

SURVEY										
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.	Total Kms.....						0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....						310.600

CHAINING										
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.	Total Kms.....						0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....						0.000

RANGING										COMMENTS :	
Line No.....	Kms										
Line No.....	Kms										
Line No.....	Kms	Total Kms.....						0.000			
Line No.....	Kms	Cum. Kms. (Job).....						0.00			

LINE CLEAR										
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms.....						0.000
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job).....						0.000
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours.....						0.00
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job).....						0.00

DRILLING					PRE LOADING				
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....		0.0	Total # Holes.....		0	
Total Drilled.....		0.0	Cum Drilled(Job)..		0.0	Total Dets.....		0	
Total Hrs.....		0.0	Total # Hrs(Job).....		0.0	Total Charges		0	
						Cum #Holes(Job)		0	
						Cum Dets(Job)		22	
						Total # Charges(Job)		1010	

COMMENT

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE..... 6-Jun-03	
Client.....		Essential Petroleum				Party Manager.		Paul Armstrong			
Survey Name.		2003 Nelson Seismic Survey				Client Rep.....		Sam Coniglio			
Area.....		PEP 151				Weather.....		Rain Showers			
State.....		Victoria									

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	109	Rec	159.5	Rec	220.5	1.550		62	Profiles.....	155
Source Line	104	Rec	94.5	Rec	186.5	2.300		93	Skips.....	0
Source Line		Rec		Rec					Kms.....	3.850
Source Line		Rec		Rec					Cum Kms..	155.500
Source Line		Rec		Rec						

HOURS	Travel Time.....		0.30	Down Time -				Extra Charges		
	Test Time.....		0.20			Recorder.....		Extra Hrs.....	0.00	
	Recording Time...		1.70			Cables.....	0.40	Detours Charge Hrs	0.00	
	Other Time	Line Change.....		0.10			ATU's.....		Washdowns.....Hrs	0.00
		Recorder Move..					Detours/Terr...		Extra Other Charge..	0.00
		Detours/Terrain.					W / on Spread.		Total Extra.....Hrs	0.00
		Experimental...					Stock Damage		Total Extra(Job).Hrs	0.00
	QC Spread .....		5.40			Other.....		Processing Hrs.....	0.00	
	Wait on Spread.		0.20							
	Weather Time...		2.10							
Shut Down .....		0.20			Total Down Time.....	0.40	Total Day.....Hrs	10.90		
Safety Meeting..		0.30			Cum. Down Time (Job)	23.30	Total Hrs (Job).....	289.10		

COMMENTS: **Total Charge Hrs 8.1 hrs at full rate and 2 .1 hr at standby rate.**

**Front crew, line 104 stn 376 - 576, line 101 stn 504 - 650, line 109 stn 253 - 290 total 386 stns**

**Back crew, line 113 stn 292 - 376, line 111 stn 293 - 315, line 108 stn 506 - 454 total 161 stns**

**NOTE: standby rate of 2 .1 hr due to rain and hail creating noise.**

SURVEY				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 310.600

CHAINING				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 0.000

RANGING					COMMENTS :	
Line No.....	Kms					
Line No.....	Kms					
Line No.....	Kms				Total Kms.....	0.000
Line No.....	Kms				Cum. Kms. (Job).....	0.00

LINE CLEAR						
Dozer	1 Line No.....		Kms. Cut.....	Hrs.	Total Kms.....	0.000
Dozer	2 Line No.....		Kms. Cut.....	Hrs.	Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....		Kms. Cut.....	Hrs.	Total Hours.....	0.00
Grader	1 Line No.....		Kms.Graded....	Hrs.	Total Hrs (Job).....	0.00

DRILLING				PRE LOADING					
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....		0	Cum Dets(Job)	22
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges		0	Total # Charges(Job)	1010

COMMENT

# DAILY PRODUCTION REPORT

CREW 401										DATE.....5-Jun-03	
Client.....		Essential Petroleum					Party Manager.		Paul Armstrong		
Survey Name.		2003 Nelson Seismic Survey					Client Rep.....		Sam Coniglio		
Area.....		PEP 151					Weather.....		Rain Showers		
State.....		Victoria									

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	101	Rec	437.5	Rec	476.5	1.000	3	37	Profiles.....	252
Source Line	109	Rec	134.5	Rec	158.5	0.625		25	Skips.....	3
Source Line	108	Rec	297.5	Rec	115.5	4.575		183	Kms.....	6.350
Source Line	104	Rec	251.5	Rec	245.5	0.150		7	Cum Kms..	151.650
Source Line		Rec		Rec						

HOURS	Travel Time.....	0.30	Down Time -				Extra Charges			
	Test Time.....	0.20			Recorder.....		Extra Hrs.....	0.00		
	Recording Time...	3.10			Cables.....	0.70	Detours Charge Hrs	0.00		
	Other Time	Line Change.....	0.40			ATU's.....		Washdowns.....Hrs	0.00	
		Recorder Move..				Detours/Terr...		Extra Other Charge..	0.00	
		Detours/Terrain.				W / on Spread.		Total Extra.....Hrs	0.00	
		Experimental...				Stock Damage		Total Extra(Job).Hrs	0.00	
		QC Spread .....	3.30			Other.....		Processing Hrs.....	0.00	
		Wait on Spread.	2.00							
		Weather Time...	0.40							
		Shut Down .....	0.20	Total Down Time.....		0.70	Total Day.....Hrs	10.90		
		Safety Meeting..	0.30	Cum. Down Time (Job)		22.90	Total Hrs (Job).....	278.20		

**COMMENTS:**  
**Total Charge Hrs 9.5 hrs at full rate and .4 hr at standby rate.**  
**Front crew, line 105 stn 149 - 204, line 104 stn 346 - 375 total 86 stns**  
**Back crew, line 101 stn 310 - 339, line 110 stn 304 - 112, line 107 stn 133 - 168 total 259 stns**  
**NOTE: standby rate of .4 hr due to rain showers creating noise.**

SURVEY										
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.						Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.						Cum. Kms. (Job).....	310.600

CHAINING										
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.						Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.						Cum. Kms. (Job).....	0.000

**RANGING**

COMMENTS :

Line No.....	Kms								
Line No.....	Kms								
Line No.....	Kms						Total Kms.....	0.000	
Line No.....	Kms						Cum. Kms. (Job).....	0.00	

LINE CLEAR									
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms..... 0.000					
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job)..... 0.000					
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours..... 0.00					
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job)..... 0.00					

DRILLING					PRE LOADING				
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....		0	Cum Dets(Job)	22
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges		0	Total # Charges(Job)	1010

**COMMENT**

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE..... 4-Jun-03	
Client.....		Essential Petroleum				Party Manager.		Paul Armstrong			
Survey Name.		2003 Nelson Seismic Survey				Client Rep.....		Sam Coniglio			
Area.....		PEP 151				Weather.....		Rain Showers			
State.....		Victoria									

RECORDING				Kms.		SKIPS		PROFILES		TOTALS	
Source Line	101	Rec	274.5	Rec	436.5	4.050	7	156	Profiles.....	156	
Source Line		Rec		Rec					Skips.....	7	
Source Line		Rec		Rec					Kms.....	4.050	
Source Line		Rec		Rec					Cum Kms..	145.300	
Source Line		Rec		Rec							

HOURS	Travel Time.....	0.30	Down Time -		Extra Charges			
	Test Time.....	0.20	Recorder.....		Extra Hrs.....	0.00		
	Recording Time...	2.00	Cables.....		2.00	Detours Charge Hrs	0.00	
	Other Time		ATU's.....		Washdowns.....Hrs	0.00		
	Line Change.....		Detours/Terr...		Extra Other Charge..	0.00		
	Recorder Move..		W / on Spread.		Total Extra.....Hrs	0.00		
	Detours/Terrain.	0.20	Stock Damage		Total Extra(Job).Hrs	0.00		
	Other.....	0.20	Other.....		Processing Hrs.....	0.00		
	QC Spread .....	5.70						
	Wait on Spread.							
Weather Time...								
Shut Down .....	0.10	Total Down Time.....		2.00	Total Day.....Hrs	11.00		
Safety Meeting..	0.30	Cum. Down Time (Job)		22.20	Total Hrs (Job).....	267.30		

COMMENTS: **Total Charge Hrs 8.7 hrs at full rate.**

**Front crew, line 104 stn 318 - 345, line 105 stn 81 - 148 total 95 stns**

**Back crew, line 101 stn 274 - 309, line 109 stn 220 - 252 total 69 stns**

**NOTE: Other in chargeable hrs is .2 hr for playback at client request.**

SURVEY										
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.	Total Kms.....						0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....						310.600

CHAINING										
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.							
Line No.....	STN..	STN..	Kms.	Total Kms.....						0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....						0.000

RANGING										COMMENTS :	
Line No.....	Kms										
Line No.....	Kms										
Line No.....	Kms									Total Kms.....	0.000
Line No.....	Kms									Cum. Kms. (Job).....	0.00

LINE CLEAR										
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms.....						0.000
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job).....						0.000
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours.....						0.00
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job).....						0.00

DRILLING					PRE LOADING						
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges			
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges			
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges			
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges			
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges			
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges			
Total # Mtr.....		0.0	Cum # Mtr(Job).....		0.0	Total # Holes.....		0	Cum #Holes(Job)		0
Total Drilled.....		0.0	Cum Drilled(Job)..		0.0	Total Dets.....		0	Cum Dets(Job)		22
Total Hrs.....		0.0	Total # Hrs(Job).....		0.0	Total Charges		0	Total # Charges(Job)		1010

COMMENT

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE..... 3-Jun-03	
Client..... Essential Petroleum					Party Manager. Paul Armstrong						
Survey Name. 2003 Nelson Seismic Survey					Client Rep..... Sam Coniglio						
Area..... PEP 151					Weather..... Rain showers						
State..... Victoria											

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	108	Rec	330.5	Rec	298.5	0.825	2	31	Profiles.....	251
Source Line	110	Rec	303.5	Rec	112.5	4.800	44	148	Skips.....	53
Source Line	107	Rec	134.5	Rec	168.5	0.850	1	34	Kms.....	7.550
Source Line	103	Rec	147.5	Rec	190.5	1.075	6	38	Cum Kms..	141.250
Source Line		Rec		Rec						

HOURS	Travel Time.....		0.30	Down Time -				Extra Charges		
	Test Time.....		0.10	Recorder.....				Extra Hrs.....		0.00
	Recording Time...		2.90	Cables.....		0.40	Detours Charge Hrs		0.00	
	Other Time	Line Change.....		1.40	ATU's.....		Washdowns.....Hrs		0.00	
		Wait on Spread.			Detours/Terr...		Extra Other Charge..		0.00	
		Detours/Terrain.			W / on Spread.		Total Extra.....Hrs		0.00	
		Other.....		0.30	Stock Damage		Total Extra(Job).Hrs		0.00	
	QC Spread .....		4.30	Other.....		Processing Hrs.....		0.00		
	Wait on Spread.									
	Weather Time...		0.50							
	Shut Down .....		0.20	Total Down Time.....		0.40	Total Day.....Hrs		10.70	
	Safety Meeting..		0.30	Cum. Down Time (Job)		20.20	Total Hrs (Job).....		256.30	

**COMMENTS:** Total Charge Hrs 9.2 hrs at full rate and .8 hr at standby rate.

Back crew, line 110 stn 401 - 304 total 98 stns

**NOTE:** Other time of .3 hr was client rep. checking houses along line 110 . Charge .3 hr standby

Stop acquisition from 14:40 to 15:10 due to heavy rains creating noise. Charge .5 hrs standby.

Line crew spent most of day picking up pegs on lines south of line 110.

SURVEY				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 310.600

CHAINING				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 0.000

RANGING					COMMENTS :	
Line No.....	Kms					
Line No.....	Kms					
Line No.....	Kms				Total Kms.....	0.000
Line No.....	Kms				Cum. Kms. (Job).....	0.00

LINE CLEAR				
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms..... 0.000
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job)..... 0.000
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours..... 0.00
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job)..... 0.00

DRILLING					PRE LOADING				
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	Elect Dets	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....		0	Cum Dets(Job)	22
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges		0	Total # Charges(Job)	1010

**COMMENT**



# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE.....2-Jun-03	
Client.....		Essential Petroleum				Party Manager.		Paul Armstrong			
Survey Name..		2003 Nelson Seismic Survey				Client Rep.....		Sam Coniglio			
Area.....		PEP 151				Weather.....		Heavy Rain			
State.....		Victoria									

RECORDING					Kms.	SKIPS	PROFILES	TOTALS	
Source Line	108	Rec	398.5	Rec	331.5	1.700	3	65	Profiles..... 92
Source Line	109	Rec	107.5	Rec	133.5	0.650		27	Skips..... 3
Source Line		Rec		Rec					Kms..... 2.350
Source Line		Rec		Rec					Cum Kms.. 133.700
Source Line		Rec		Rec					

HOURS		Travel Time.....		0.30	Down Time -		Extra Charges	
		Test Time.....		0.30		Recorder.....	Extra Hrs..... 0.00	
		Recording Time...		1.00		Cables..... 0.40	Detours Charge Hrs 0.00	
Other Time		Line Change.....		0.10		Vibs..... 0.10	Washdowns.....Hrs 0.00	
		Recorder Move..				Detours/Terr...	Extra Other Charge.. 0.00	
		Detours/Terrain.				W / on Spread.	Total Extra.....Hrs 0.00	
		Experimental...				Stock Damage	Total Extra(Job).Hrs 0.00	
		Other Time...				Other.....	Processing Hrs..... 0.00	
		Wait on Spread.						
		Weather Time...		3.50				
		QC Spread .....		4.50		Total Down Time..... 0.50	Total Day.....Hrs 10.50	
		Safety Meeting..		0.3		Cum. Down Time (Job) 19.80	Total Hrs (Job)..... 245.60	

**COMMENTS:**

**Total Charge Hrs 6.2 hrs at full rate and 3.5 hrs at standby rate.**

**Front crew, line 104 stn 264 - 319, line 101 stn 476 - 503 total 84 stns**

**Back crew, line 108 stn 573 - 507, line 110 stn 609 - 402 total 275 stns**

**Stop acquisition at 2:15 due to heavy rains creating noise. Charge 3.5 hrs standby.**

SURVEY				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 310.600

CHAINING				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 0.000

RANGING					COMMENTS :	
Line No.....		Kms				
Line No.....		Kms				
Line No.....		Kms			Total Kms..... 0.000	
Line No.....		Kms			Cum. Kms. (Job)..... 0.00	

LINE CLEAR				Kms. Cut.....			
Dozer	1	Line No.....		Kms. Cut.....	Hrs.	Total Kms..... 0.000	
Dozer	2	Line No.....		Kms. Cut.....	Hrs.	Cum. Kms. (Job)..... 0.000	
Dozer	3	Line No.....		Kms. Cut.....	Hrs.	Total Hours..... 0.00	
Grader	1	Line No.....		Kms.Graded....	Hrs.	Total Hrs (Job)..... 0.00	

DRILLING					PRE LOADING			
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....		0	Cum #Holes(Job) 0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....		0	Cum Dets(Job) 22
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges		0	Total # Charges(Job) 1010

**COMMENT**

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE..... 1-Jun-03	
Client.....		Essential Petroleum				Party Manager.		Paul Armstrong			
Survey Name.		2003 Nelson Seismic Survey				Client Rep.....		Sam Coniglio			
Area.....		PEP 151				Weather.....		Fine			
State.....		Victoria									

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	108	Rec	466.5	Rec	399.5	1.700		68	Profiles.....	287
Source Line	113	Rec	377.5	Rec	292.5	2.125	4	82	Skips.....	15
Source Line	110	Rec	353.5	Rec	304.5	1.250		50	Kms.....	7.500
Source Line	111	Rec	389.5	Rec	292.5	2.425	11	87	Cum Kms..	131.350
Source Line		Rec		Rec						

HOURS	Travel Time.....		0.30	Down Time -				Extra Charges		
	Test Time.....		0.20			Recorder.....		Extra Hrs.....	0.00	
	Recording Time...		3.40			Cables.....	1.00	Detours Charge Hrs	0.00	
	Other Time	Line Change.....		0.40			ATU's.....		Washdowns.....Hrs	0.00
		Recorder Move..		1.40			Detours/Terr...		Extra Other Charge..	0.00
		Detours/Terrain.					W / on Spread.		Total Extra.....Hrs	0.00
		Experimental...					Stock Damage		Total Extra(Job).Hrs	0.00
	QC Spread .....		1.50			Other.....		Processing Hrs.....	0.00	
	Wait on Spread.		1.80							
	Weather Time...									
Shut Down		0.30	Total Down Time.....		1.00	Total Day.....Hrs	10.60			
Safety Meeting..		0.30	Cum. Down Time (Job)		19.30	Total Hrs (Job).....	235.10			

**COMMENTS:**  
**Total Charge Hrs 9.3 hrs at full rate.**  
**Front crew, line 108 stn 320 - 115, line 101 stn 274 - 475, line 104 stn 94 - 263 total 578 stns**  
**Back crew, line 123 stn 854 - 927, line 121 stn 101 - 253, line 115 stn 190 - 296, line 106 stn 249 - 345 total 431 stns**

SURVEY				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 310.600

CHAINING				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 0.000

RANGING					COMMENTS :	
Line No.....		Kms				
Line No.....		Kms				
Line No.....		Kms			Total Kms.....	0.000
Line No.....		Kms			Cum. Kms. (Job).....	0.00

LINE CLEAR						
Dozer	1 Line No.....		Kms. Cut.....	Hrs.	Total Kms.....	0.000
Dozer	2 Line No.....		Kms. Cut.....	Hrs.	Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....		Kms. Cut.....	Hrs.	Total Hours.....	0.00
Grader	1 Line No.....		Kms.Graded....	Hrs.	Total Hrs (Job).....	0.00

DRILLING				PRE LOADING					
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....		0	Cum Dets(Job)	22
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges		0	Total # Charges(Job)	1010

**COMMENT**

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE..... 31-May-03	
Client.....		Essential Petroleum				Party Manager.		Paul Armstrong			
Survey Name.		2003 Nelson Seismic Survey				Client Rep.....		Sam Coniglio			
Area.....		PEP 151				Weather.....		Fine			
State.....		Victoria									

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	106	Rec	174.5	Rec	130.5	1.125	20	25	Profiles.....	302
Source Line	121	Rec	122.5	Rec	209.5	2.200	1	87	Skips.....	22
Source Line	115	Rec	257.5	Rec	190.5	1.700	1	67	Kms.....	8.100
Source Line	110	Rec	439.5	Rec	354.5	2.150		86	Cum Kms..	123.850
Source Line	108	Rec	503.5	Rec	467.5	0.925		37		

HOURS	Travel Time.....		0.40	Down Time -		Extra Charges			
	Test Time.....		0.10	Recorder.....		Extra Hrs.....	0.00		
	Recording Time...		3.40	Cables.....		0.20	Detours Charge Hrs	0.00	
	Other Time	Line Change.....		0.80	ATU's.....		Washdowns.....Hrs	0.00	
		Recorder Move..			Detours/Terr...		Extra Other Charge..	0.00	
		Detours/Terrain.			W / on Spread.		Total Extra.....Hrs	0.00	
		Experimental...			Stock Damage		Total Extra(Job).Hrs	0.00	
	QC Spread .....		2.00	Other.....		Processing Hrs.....	0.00		
	Wait on Spread.		2.30						
	Weather Time...								
Shut Down		0.30	Total Down Time.....		0.20	Total Day.....Hrs	9.80		
Safety Meeting..		0.30	Cum. Down Time (Job)		18.30	Total Hrs (Job).....	224.50		

**COMMENTS:**    **Total Charge Hrs 9.3 hrs at full rate.**

**Front crew, line 108 stn 374 - 321, line 110 stn 303 - 112, line 109 stn 107 - 220, line 107 stn 134 - 168 ,**

**line 103 stn 147 - 190    total 439 stns**

**Back crew, line 125 stn 216 - 298, line 104 stn 863 - 640, line106 stn 291 - 250, line 121 stn 264 - 226,**

**line 110 stn 554 - 465, line 108 stn 644 - 609    total 514 stns**

SURVEY				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 310.600

CHAINING				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 0.000

RANGING					COMMENTS :	
Line No.....	Kms					
Line No.....	Kms					
Line No.....	Kms				Total Kms.....	0.000
Line No.....	Kms				Cum. Kms. (Job).....	0.00

LINE CLEAR						
Dozer	1 Line No.....		Kms. Cut.....	Hrs.	Total Kms.....	0.000
Dozer	2 Line No.....		Kms. Cut.....	Hrs.	Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....		Kms. Cut.....	Hrs.	Total Hours.....	0.00
Grader	1 Line No.....		Kms.Graded....	Hrs.	Total Hrs (Job).....	0.00

DRILLING					PRE LOADING				
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	Elect Dets	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....		0	Cum Dets(Job)	22
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges		0	Total # Charges(Job)	1010

**COMMENT**

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401	DATE..... 30-May-03
Client..... Essential Petroleum	Party Manager. Paul Armstrong
Survey Name. 2003 Nelson Seismic Survey	Client Rep..... Sam Coniglio
Area..... PEP 151	Weather..... Fine
State..... Victoria	

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	108	Rec	597.5	Rec	504.5	2.350		94	Profiles.....	275
Source Line	123	Rec	927.5	Rec	854.5	1.825	2	72	Skips.....	8
Source Line	110	Rec	491.5	Rec	440.5	1.300	4	49		
Source Line	115	Rec	296.5	Rec	258.5	0.950	2	37	Kms.....	6.975
Source Line	121	Rec	101.5	Rec	121.5	0.500		21	Cum Kms..	115.750
Source Line	106	Rec	176.5	Rec	175.5	0.050		2		

HOURS	Travel Time.....	0.50	Down Time -		Extra Charges		
	Test Time.....	0.20		Recorder.....	Extra Hrs.....	0.00	
Other Time	Recording Time...	3.00		Cables.....	0.30	Detours Charge Hrs	0.00
	Line Change.....	0.80		ATU's.....		Washdowns.....Hrs	0.00
	Recorder Move..	0.30		Detours/Terr...		Extra Other Charge..	0.00
	Detours/Terrain.			W / on Spread.		Total Extra.....Hrs	0.00
	Experimental...			Stock Damage		Total Extra(Job).Hrs	0.00
	QC Spread .....	4.80		Other.....		Processing Hrs.....	0.00
	Wait on Spread.						
	Shut Down Recorder	0.20					
	Stock Damage..			Total Down Time.....	0.30	Total Day.....Hrs	10.40
	Safety Meeting..	0.30		Cum. Down Time (Job)	18.10	Total Hrs (Job).....	214.70

COMMENTS: **Total Charge Hrs 9.8 hrs at full rate.**  
**Front crew, line 213 stn 208 - 260, line 108 stn 430 - 375, line 110 stn 405 - 304, line 111 stn 389 - 293 total 308 stns**  
**Back crew, line 106 stn 345 - 292, line 129 stn 170 - 330, line 108 stn 698 - 645, line 114 stn 164 - 101,**  
**line 110 stn 591 - 555 total 370 stns**

SURVEY									
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.		Total Kms.....	0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	310.600

CHAINING									
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.		Total Kms.....	0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	0.000

RANGING									
COMMENTS :									
Line No.....		Kms							
Line No.....		Kms							
Line No.....		Kms						Total Kms.....	0.000
Line No.....		Kms						Cum. Kms. (Job).....	0.00

LINE CLEAR									
Dozer	1	Line No.....		Kms. Cut.....		Hrs.		Total Kms.....	0.000
Dozer	2	Line No.....		Kms. Cut.....		Hrs.		Cum. Kms. (Job).....	0.000
Dozer	3	Line No.....		Kms. Cut.....		Hrs.		Total Hours.....	0.00
Grader	1	Line No.....		Kms.Graded....		Hrs.		Total Hrs (Job).....	0.00

DRILLING					PRE LOADING				
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....	0	Cum #Holes(Job)	0	
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....	0	Cum Dets(Job)	22	
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges	0	Total # Charges(Job)	1010	

COMMENT

**TRACE ENERGY SERVICES**  
**DAILY PRODUCTION REPORT**

CREW 401 DATE.....29-May-03

Client.....	Essential Petroleum	Party Manager.	Paul Armstrong
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Fine
State.....	Victoria		

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	125	Rec	297.5	Rec	216.5	2.025	1	82	Profiles.....	264
Source Line	110	Rec	559.5	Rec	492.5	1.700		68	Skips.....	1
Source Line	108	Rec	642.5	Rec	598.5	1.125		45	Kms.....	6.550
Source Line	106	Rec	244.5	Rec	177.5	1.700		69	Cum Kms..	108.775
Source Line		Rec		Rec						

HOURS	Travel Time.....	0.50	Down Time -		Extra Charges	
	Test Time.....	0.10	Recorder.....		Extra Hrs.....	0.00
Other Time	Recording Time...	2.90	Cables.....		Detours Charge Hrs	0.00
	Line Change.....	0.60	ATU's.....		Washdowns.....Hrs	0.00
	Recorder Move..	1.50	Detours/Terr...		Extra Other Charge..	0.00
	Detours/Terrain.		W / on Spread.		Total Extra.....Hrs	0.00
	Experimental...		Stock Damage		Total Extra(Job).Hrs	0.00
	QC Spread .....	3.90	Other.....		Processing Hrs.....	0.00
	Wait on Spread.					
	Communication delay	0.50				
	Shut Down Recorder	0.20	Total Down Time.....		0.00	Total Day.....Hrs
Safety Meeting..	0.30	Cum. Down Time (Job)		17.80	Total Hrs (Job).....	204.30

COMMENTS:	<p><b>Total Charge Hrs 10.2 hrs at full rate.</b></p> <p><b>Front crew, line 113 stn 292 - 376, line 213 stn 101 - 207    total 192 stns</b></p> <p><b>Back crew, line 114 stn 237 - 165, line 108 stn 793 - 699, line 110 stn 657 - 592    total 234 stns</b></p>
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SURVEY				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 310.600

CHAINING					
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.	Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....	0.000

RANGING		COMMENTS :
Line No.....	Kms	
Line No.....	Kms	
Line No.....	Kms	Total Kms..... 0.000
Line No.....	Kms	Cum. Kms. (Job)..... 0.00

LINE CLEAR					
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms.....	0.000
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours.....	0.00
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job).....	0.00

DRILLING					PRE LOADING			Elect Dets	
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....	0	Cum #Holes(Job)	0	
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....	0	Cum Dets(Job)	22	
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges	0	Total # Charges(Job)	1010	

COMMENT
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# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE..... 28-May-03	
Client.....		Essential Petroleum				Party Manager.		Paul Armstrong			
Survey Name.		2003 Nelson Seismic Survey				Client Rep.....		Sam Coniglio			
Area.....		PEP 151				Weather.....		Fine			
State.....		Victoria									

RECORDING						Kms.	SKIPS	PROFILES	TOTALS
Source Line	104	Rec	785.5	Rec	863.5	1.950		79	Profiles..... 271
Source Line	<b>102 R</b>	Rec	557.5	Rec	699.5	3.600		73	Skips..... 0
Source Line	<b>121 R</b>	Rec	345.5	Rec	269.5	1.900		39	Kms..... 9.475
Source Line	106	Rec	301.5	Rec	245.5	1.425		57	Cum Kms.. 102.225
Source Line	108	Rec	666.5	Rec	643.5	0.600		23	

HOURS	Travel Time.....		<b>0.50</b>	Down Time -		Extra Charges		
	Test Time.....		<b>0.10</b>	Recorder.....		Extra Hrs..... 0.00		
	Recording Time...		<b>3.00</b>	Cables..... 0.20		Detours Charge Hrs 0.00		
	Other Time	Line Change.....		<b>0.20</b>	Vibs..... 0.20		Washdowns.....Hrs 0.00	
		Recorder Move..		<b>2.50</b>	Detours/Terr...		Extra Other Charge.. 0.00	
		Detours/Terrain.			W / on Spread.		Total Extra.....Hrs 0.00	
	Experimental...			Stock Damage		Total Extra(Job).Hrs 0.00		
	QC Spread .....		<b>3.30</b>	Other.....		Processing Hrs..... 0.00		
	Wait on Spread.							
	Weather Time...							
Shut Down Recorder		<b>0.20</b>	Total Down Time.....		0.40	Total Day.....Hrs 10.50		
Safety Meeting..		0.30	Cum. Down Time (Job)		17.80	Total Hrs (Job)..... 193.80		

COMMENTS: **Total Charge Hrs 9.8 hrs at full rate.**

**Front crew, line 115 stn 190 - 296, line 108 stn 505 - 431, line 110 stn 439 - 406 total 216 stns**

**Back crew, line 110 stn 693 - 657, line 131 stn 365 - 228 total 175 stns**

**NOTE: SOURCE LINES 102 R AND 121 R ON NORTH SIDE OF RIVER. VIBRATE EVERY 50 METERS.**

SURVEY									
Line No.....	STN..	STN..	Kms.						
Line No.....	STN..	STN..	Kms.						
Line No.....	STN..	STN..	Kms.						
Line No.....	STN..	STN..	Kms.	Total Kms.....					0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....					310.600

CHAINING									
Line No.....	STN..	STN..	Kms.						
Line No.....	STN..	STN..	Kms.						
Line No.....	STN..	STN..	Kms.						
Line No.....	STN..	STN..	Kms.	Total Kms.....					0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....					0.000

RANGING									
COMMENTS :									
Line No.....	Kms								
Line No.....	Kms								
Line No.....	Kms	Total Kms.....					0.000		
Line No.....	Kms	Cum. Kms. (Job).....					0.00		

LINE CLEAR									
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms.....					0.000
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job).....					0.000
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours.....					0.00
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job).....					0.00

DRILLING					PRE LOADING				
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0 Cum # Mtr(Job).....		0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0 Cum Drilled(Job)..		0.0	Total Dets.....		0	Cum Dets(Job)	22
Total Hrs.....		0.0 Total # Hrs(Job).....		0.0	Total Charges		0	Total # Charges(Job)	1010

COMMENT

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE..... 27-May-03	
Client.....		Essential Petroleum				Party Manager.		Paul Armstrong			
Survey Name.		2003 Nelson Seismic Survey				Client Rep.....		Sam Coniglio			
Area.....		PEP 151				Weather.....		Fine			
State.....		Victoria									

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	108	Rec	764.5	Rec	667.5	2.450		99	Profiles.....	431
Source Line	<b>102 R</b>	Rec	797.5	Rec	701.5	2.400		49	Skips.....	42
Source Line	110	Rec	646.5	Rec	560.5	2.150		86		
Source Line	<b>127 R</b>	Rec	167.5	Rec	101.5	1.650		34	Kms.....	13.575
Source Line	129	Rec	170.5	Rec	324.5	3.850	42	119	Cum Kms..	92.750
Source Line	106	Rec	345.5	Rec	302.5	1.075		44		

HOURS	Travel Time.....	<b>0.50</b>	Down Time -		Extra Charges	
	Test Time.....	<b>0.20</b>			Recorder.....	Extra Hrs..... 0.00
	Recording Time...	<b>4.70</b>			Cables..... 1.30	Detours Charge Hrs 0.00
	Other Time	Line Change.....	<b>0.80</b>	ATU's.....		Washdowns.....Hrs 0.00
		Recorder Move..		Detours/Terr...		Extra Other Charge.. 0.00
		Detours/Terrain.		W / on Spread.		Total Extra.....Hrs 0.00
		Experimental...		Stock Damage		Total Extra(Job).Hrs 0.00
		QC Spread .....	<b>2.20</b>	Other.....		Processing Hrs..... 0.00
		Wait on Spread.				
		Weather Time...				
	Shut Down Recorder	<b>0.30</b>	Total Down Time.....		1.30	Total Day.....Hrs 10.30
	Safety Meeting..	0.30	Cum. Down Time (Job)		17.40	Total Hrs (Job)..... 183.30

**COMMENTS:**    **Total Charge Hrs 8.7 hrs at full rate.**  
**Front crew, line 123 stn 927 - 854, line 104 stn 723 - 690, line 121 stn 101 - 264, line110 stn 489 - 440    total 322 stns**  
**Back crew, line 108 stn 961 - 906, line 135 stn 339 - 439, line 110 stn 747 - 789    total stns 252**  
**NOTE: SOURCE LINES 102 R AND 127 R ON NORTH SIDE OF RIVER. VIBRATE EVERY 50 METERS.**

SURVEY									
Line No.....	102	STN..	85	STN..	90	Kms.	0.125		
Line No.....	105	STN..	198	STN..	204	Kms.	0.150		
Line No.....	201	STN..	117	STN..	130	Kms.	0.325		
Line No.....	213	STN..	101	STN..	260	Kms.	3.975	Total Kms.....	4.575
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	310.600

CHAINING									
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.		Total Kms.....	0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	0.000

RANGING									
Line No.....		Kms							
Line No.....		Kms							
Line No.....		Kms						Total Kms.....	0.000
Line No.....		Kms						Cum. Kms. (Job).....	0.00

LINE CLEAR									
Dozer	1 Line No.....			Kms. Cut.....		Hrs.		Total Kms.....	0.000
Dozer	2 Line No.....			Kms. Cut.....		Hrs.		Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....			Kms. Cut.....		Hrs.		Total Hours.....	0.00
Grader	1 Line No.....			Kms.Graded....		Hrs.		Total Hrs (Job).....	0.00

DRILLING					PRE LOADING			
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	Elect Dets
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....	0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....	0	Cum Dets(Job)	22
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges	0	Total # Charges(Job)	1010

**COMMENT**

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401 DATE.....26-May-03

Client.....	Essential Petroleum	Party Manager.	Paul Armstrong
Survey Name..	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Fine
State.....	Victoria		

RECORDING					Kms.	SKIPS	PROFILES	TOTALS
Source Line	<b>112 R</b>	Rec	187.5	Rec	99.5	2.200	45	Profiles..... 216
Source Line	114	Rec	231.5	Rec	101.5	3.250	125	Skips..... 13
Source Line	<b>129 R</b>	Rec	343.5	Rec	425.5	2.050	13	Kms..... 7.600
Source Line	108	Rec	768.5	Rec	765.5	0.100	4	Cum Kms.. 79.175
Source Line		Rec		Rec				

HOURS	Travel Time.....	<b>0.50</b>	Down Time -	Extra Charges	
	Test Time.....	<b>0.30</b>	Recorder.....	Extra Hrs.....	0.00
	Recording Time...	<b>2.60</b>	Cables.....	Detours Charge Hrs	0.00
Other Time	Line Change.....	<b>0.30</b>	ATU's.....	Washdowns.....Hrs	0.00
	Recorder Move..		Detours/Terr...	Extra Other Charge..	0.00
	Detours/Terrain.		W / on Spread.	Total Extra.....Hrs	0.00
	Experimental...		Stock Damage	Total Extra(Job).Hrs	0.00
	QC Spread .....	<b>5.20</b>	Other.....	Processing Hrs.....	0.00
	Pick up Spread ....				
	Communication delay	<b>0.30</b>			
	Shut Down Recorder	<b>0.30</b>	Total Down Time.....	0.70	Total Day.....Hrs 10.50
	Safety Meeting..	0.30	Cum. Down Time (Job)	16.10	Total Hrs (Job)..... 173.00

COMMENTS: **Total Charge Hrs 9.5 hrs at full rate.**  
**Front crew, line 106 stn 195 - 130, line 104 stn 788 - 724, line 108 stn 652 - 505 total 279 stns**  
**Back crew, line 108 stn 961 - 906, line 135 stn 339 - 439, line 110 stn 747 - 789 total stns 200**  
**NOTE: SOURCE LINES 112 R AND 129 R ON NORTH SIDE OF RIVER. VIBRATE EVERY 50 METERS.**

SURVEY								
Line No.....	102	STN..	97	STN..	110	Kms.	0.325	
Line No.....	105	STN..	81	STN..	198	Kms.	2.925	
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		Total Kms..... 3.250
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job)..... 306.025

CHAINING								
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		Total Kms..... 0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job)..... 0.000

RANGING								
Line No.....		Kms						
Line No.....		Kms						
Line No.....		Kms						Total Kms..... 0.000
Line No.....		Kms						Cum. Kms. (Job)..... 0.00

LINE CLEAR								
Dozer	1 Line No.....			Kms. Cut.....		Hrs.		Total Kms..... 0.000
Dozer	2 Line No.....			Kms. Cut.....		Hrs.		Cum. Kms. (Job)..... 0.000
Dozer	3 Line No.....			Kms. Cut.....		Hrs.		Total Hours..... 0.00
Grader	1 Line No.....			Kms.Graded....		Hrs.		Total Hrs (Job)..... 0.00

DRILLING					PRE LOADING				Elect Dets			
Rig No.	1	# Mtr	#Holes	Hrs		1	# Holes	# Dets		# Charges		
Rig No.	2	# Mtr	#Holes	Hrs		2	# Holes	# Dets		# Charges		
Rig No.	3	# Mtr	#Holes	Hrs		3	# Holes	# Dets		# Charges		
Rig No.	4	# Mtr	#Holes	Hrs		4	# Holes	# Dets		# Charges		
Rig No.	5	# Mtr	#Holes	Hrs		5	# Holes	# Dets		# Charges		
Rig No.	6	# Mtr	#Holes	Hrs		6	# Holes	# Dets		# Charges		
Total # Mtr.....			0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....		0	Cum #Holes(Job)			0
Total Drilled.....			0.0	Cum Drilled(Job)..	0.0	Total Dets.....		0	Cum Dets(Job)			22
Total Hrs.....			0.0	Total # Hrs(Job).....	0.0	Total Charges		0	Total # Charges(Job)			1010

COMMENT



**TRACE ENERGY SERVICES**  
**DAILY PRODUCTION REPORT**

CREW 401 DATE.....25-May-03

Client.....	Essential Petroleum	Party Manager.	Paul Armstrong
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Fine
State.....	Victoria		

RECORDING						Kms.	SKIPS	PROFILES	TOTALS	
Source Line	135	Rec	427.5	Rec	438.5	0.275	1	12	Profiles.....	238
Source Line	<b>139 R</b>	Rec	561.5	Rec	643.5	2.050	2	42	Skips.....	3
Source Line	108	Rec	815.5	Rec	769.5	1.150		47	Kms.....	10.225
Source Line	<b>112 R</b>	Rec	393.5	Rec	189.5	5.100		103	Cum Kms..	71.575
Source Line	<b>135 R</b>	Rec	465.5	Rec	531.5	1.650		34		

HOURS	Travel Time.....	0.50	Down Time -	Extra Charges	
	Test Time.....	0.10	Recorder.....	Extra Hrs.....	0.00
	Recording Time...	3.60	Cables.....	Detours Charge Hrs	0.00
Other Time	Line Change.....		ATU's.....	Washdowns.....Hrs	0.00
	Recorder Move..	1.60	Detours/Terr...	Extra Other Charge..	0.00
	Detours/Terrain.		W / on Spread.	Total Extra.....Hrs	0.00
	Experimental...		Stock Damage	Total Extra(Job).Hrs	0.00
	QC Spread .....	4.10	Other.....	Processing Hrs.....	0.00
	Wait on Spread.				
	Weather Time...				
	Shut Down Recorder	0.30	Total Down Time.....	Total Day.....Hrs	10.70
	Safety Meeting..	0.30	Cum. Down Time (Job)	Total Hrs (Job).....	162.50

COMMENTS:	<p>Total Charge Hrs 10.2 hrs at full rate.</p> <p>Front crew, line 106 stn 231 - 196 total 36 stns</p> <p>Back crew, line 268 stn 339 - 748, line 137 stn 245 - 321, line 139 stn 699 - 655 total stns 194</p> <p>NOTE: SOURCE LINES 139 R, 112 R AND 135 R ALL ON NORTH SIDE OF RIVER. VIBRATE EVERY 50 METERS.</p>
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SURVEY							
Line No.....	121	STN..	149	STN..	264	Kms.	2.875
Line No.....	127	STN..	101	STN..	167	Kms.	1.650
Line No.....		STN..		STN..		Kms.	
Line No.....		STN..		STN..		Kms.	Total Kms..... 4.525
Line No.....		STN..		STN..		Kms.	Cum. Kms. (Job)..... 302.775

CHAINING					
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.	Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....	0.000

RANGING		COMMENTS :
Line No.....	Kms	
Line No.....	Kms	
Line No.....	Kms	Total Kms..... 0.000
Line No.....	Kms	Cum. Kms. (Job)..... 0.00

LINE CLEAR					
Dozer	1	Line No.....	Kms. Cut.....	Hrs.	Total Kms..... 0.000
Dozer	2	Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job)..... 0.000
Dozer	3	Line No.....	Kms. Cut.....	Hrs.	Total Hours..... 0.00
Grader	1	Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job)..... 0.00

DRILLING					L.V.L.						
Rig No.	1	# Mtr	#Holes	Hrs	Unit 6	Line #	123	# Holes	1	# Mtr	56.0
Rig No.	2	# Mtr	#Holes	Hrs		Line #	135	# Holes	1	# Mtr	56.0
Rig No.	3	# Mtr	#Holes	Hrs		Line #		# Holes		# Mtr	
Rig No.	4	# Mtr	#Holes	Hrs		Line #		# Holes		# Mtr	
Rig No.	5	# Mtr	#Holes	Hrs		Line #		# Holes		# Mtr	
Rig No.	6	# Mtr	#Holes	Hrs							
Total # Mtr.....		0.0 Cum # Mtr(Job).....		0.0							
Total Drilled.....		0.0 Cum Drilled(Job)..		0.0	# Holes		2		Cum #Holes		22
Total Hrs.....		0.0 Total # Hrs(Job).....		0.0	# Mtr		112		Cum #mtr		1010

COMMENT	Drilling and LVL completed work on 2003 Nelson Seismic Survey.
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# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401 DATE..... 24-May-03

Client.....	Essential Petroleum	Party Manager.	Paul Armstrong
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Rain
State.....	Victoria		

RECORDING					Kms.	SKIPS	PROFILES	TOTALS
Source Line	131	Rec	317.5	Rec	365.5	1.225	49	Profiles..... 316
Source Line	108	Rec	828.5	Rec	969.5	3.550	142	Skips..... 0
Source Line	114	Rec	231.5	Rec	321.5	2.250	96	Kms..... 7.750
Source Line	135	Rec	398.5	Rec	427.5	0.725	29	Cum Kms.. 61.350
Source Line		Rec		Rec				

HOOURS	Travel Time.....	0.50	Down Time -	Extra Charges	
	Test Time.....	0.10	Recorder.....	Extra Hrs.....	0.00
	Recording Time...	3.80	Cables.....	Detours Charge Hrs	0.00
Other Time	Line Change.....		ATU's.....	Washdowns.....Hrs	0.00
	Recorder Move..		Detours/Terr...	Extra Other Charge..	0.00
	Detours/Terrain.		W / on Spread.	Total Extra.....Hrs	0.00
	Experimental...		Stock Damage	Total Extra(Job).Hrs	0.00
	QC Spread .....	4.40	Other.....	Processing Hrs.....	0.00
	Wait on Spread.				
	Weather Time...				
	Shut Down Recorder	0.20	Total Down Time.....	1.30	Total Day.....Hrs 10.60
	Safety Meeting..	0.30	Cum. Down Time (Job)	15.20	Total Hrs (Job)..... 151.80

COMMENTS: **Total Charge Hrs 9 hrs at full rate.**  
**Front crew,line 125 stn 216 - 298, line106 stn 345 - 232, line104 stn 863 - 788 total 273 stns**  
**Back crew line 110 stn 855 - 748 total 108 stns**  
**Other in down time was radio problems with vibs.**

SURVEY								
Line No.....	129	STN..	330	STN..	427	Kms.	2.425	
Line No.....	135	STN..	439	STN..	538	Kms.	2.475	
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		Total Kms..... 4.900
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job)..... 298.250

CHAINING								
Line No.....		STN..		STN		Kms.		
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		Total Kms..... 0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job)..... 0.000

RANGING				COMMENTS :				
Line No.....		Kms						
Line No.....		Kms						
Line No.....		Kms						Total Kms..... 0.000
Line No.....		Kms						Cum. Kms. (Job)..... 0.00

LINE CLEAR								
Dozer	1 Line No.....			Kms. Cut.....		Hrs.		Total Kms..... 0.000
Dozer	2 Line No.....			Kms. Cut.....		Hrs.		Cum. Kms. (Job)..... 0.000
Dozer	3 Line No.....			Kms. Cut.....		Hrs.		Total Hours..... 0.00
Grader	1 Line No.....			Kms.Graded....		Hrs.		Total Hrs (Job)..... 0.00

DRILLING					L.V.L.						
Rig No.	1	# Mtr	#Holes	Hrs	Unit 6	Line #	146	# Holes	1	# Mtr	52.0
Rig No.	2	# Mtr	#Holes	Hrs		Line #	146	# Holes	1	# Mtr	19.0
Rig No.	3	# Mtr	#Holes	Hrs		Line #	124	# Holes	1	# Mtr	56.0
Rig No.	4	# Mtr	#Holes	Hrs		Line #	124	# Holes	1	# Mtr	56.0
Rig No.	5	# Mtr	#Holes	Hrs		Line #	124	# Holes	1	# Mtr	31.5
Rig No.	6	# Mtr	#Holes	Hrs							
Total # Mtr.....		0.0	Cum # Mtr(Job).....		0.0						
Total Drilled.....		0.0	Cum Drilled(Job)..		0.0	# Holes			Cum #Holes		20
Total Hrs.....		0.0	Total # Hrs(Job).....		0.0	# Mtr			Cum #mtr		898.0

COMMENT

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401 DATE.....23-May-03

Client.....	Essential Petroleum	Party Manager.	Paul Armstrong
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Fine
State.....	Victoria		

RECORDING					Kms.	SKIPS	PROFILES	TOTALS
Source Line	110	Rec	762.5	Rec	646.5	2.925	117	Profiles..... 217
Source Line	135	Rec	270.5	Rec	274.5	0.100	5	Skips..... 3
Source Line	131	Rec	231.5	Rec	316.5	2.125	3	Kms..... 5.425
Source Line	108	Rec	816.5	Rec	827.5	0.275	12	Cum Kms.. 53.600
Source Line		Rec		Rec				

HOURS	Travel Time.....	0.50	Down Time -		Extra Charges	
	Test Time.....	0.20	Recorder.....	0.20	Extra Hrs.....	0.00
	Recording Time...	2.80	Cables.....	0.60	Detours Charge Hrs	0.00
Other Time	Line Change.....	0.30	ATU's.....		Washdowns.....Hrs	0.00
	Recorder Move..		Detours/Terr...		Extra Other Charge..	0.00
	Detours/Terrain.		W / on Spread.		Total Extra.....Hrs	0.00
	Experimental...	0.40	Stock Damage		Total Extra(Job).Hrs	0.00
	Other Charge...		Other.....		Processing Hrs.....	0.00
	Lay & QC Spread..	5.00				
	Weather Time...					
	Shut Down Recorder	0.40	Total Down Time.....	0.80	Total Day.....Hrs	10.70
	Safety Meeting..	0.30	Cum. Down Time (Job)	13.90	Total Hrs (Job).....	141.20

COMMENTS: **Total Charge Hrs 9.6 hrs at full rate.**  
**Front crew,line 114 stn 101 - 126, line110 stn 593 - 547, line108 stn 698 - 651, line 129 stn 170 - 330 total 283 stns**  
**After experimental testing, client representative decided to vibrate with 2 vibs 2 sweeps.**

SURVEY								
Line No.....	108	STN..	115	STN..	340	Kms.	5.625	
Line No.....	109	STN..	325	STN..	296	Kms.	-0.725	Line 109 stns 325 - 296 Quoted twice
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		Total Kms..... 4.900
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job)..... 293.350

CHAINING								
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		Total Kms..... 0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job)..... 0.000

RANGING			COMMENTS :					
Line No.....		Kms						
Line No.....		Kms						
Line No.....		Kms						Total Kms..... 0.000
Line No.....		Kms						Cum. Kms. (Job)..... 0.00

LINE CLEAR								
Dozer	1 Line No.....			Kms. Cut.....		Hrs.		Total Kms..... 0.000
Dozer	2 Line No.....			Kms. Cut.....		Hrs.		Cum. Kms. (Job)..... 0.000
Dozer	3 Line No.....			Kms. Cut.....		Hrs.		Total Hours..... 0.00
Grader	1 Line No.....			Kms.Graded....		Hrs.		Total Hrs (Job)..... 0.00

DRILLING					L.V.L.						
Rig No.	1	# Mtr	#Holes	Hrs	Unit 6	Line #	167	# Holes	1	# Mtr	41.0
Rig No.	2	# Mtr	#Holes	Hrs		Line #	139	# Holes	1	# Mtr	50.0
Rig No.	3	# Mtr	#Holes	Hrs		Line #	102	# Holes	1	# Mtr	56.0
Rig No.	4	# Mtr	#Holes	Hrs		Line #		# Holes		# Mtr	
Rig No.	5	# Mtr	#Holes	Hrs		Line #		# Holes		# Mtr	
Rig No.	6	# Mtr	#Holes	Hrs							
Total # Mtr.....		0.0 Cum # Mtr(Job).....		0.0							
Total Drilled.....		0.0 Cum Drilled(Job)..		0.0	# Holes		3	Cum #Holes			15
Total Hrs.....		0.0 Total # Hrs(Job).....		0.0	# Mtr		147	Cum #mtr			683.5

COMMENT

TRACE ENERGY SERVICES									
DAILY PRODUCTION REPORT									

DATE..... 22-May-03

Party Manager.	Bob Stephenson
Client Rep.....	Sam Coniglio
Weather.....	Fine

RECORDING						Kms.	SKIPS	PROFILES	TOTALS
Source Line	137	Rec	84.5	Rec	219.5	3.400		136	Profiles..... 320
Source Line	116	Rec	327.5	Rec	314.5	0.325		14	Skips..... 4
Source Line	135	Rec	101.5	Rec	274.5	4.325	4	170	Kms..... 8.050
Line No.....		Rec		Rec					Cum Kms.. 48.175
Line No.....		Rec		Rec					

HOURS	Travel Time.....	0.50	Down Time -	Extra Charges	
	Test Time.....	0.20	Recorder.....	Extra Hrs.....	0.00
Other Time	Recording Time...	5.20	Cables.....	Detours Charge Hrs	0.00
	Line Change.....	0.20	ATU's.....	Washdowns.....Hrs	0.00
	Recorder Move..	4.00	Detours/Terr...	Extra Other Charge..	0.00
	Detours/Terrain.		W / on Spread.	Total Extra.....Hrs	0.00
	Experimental...		Stock Damage	Total Extra(Job).Hrs	0.00
	Other .....		Other.....	Processing Hrs.....	0.00
	Shut Down Recorder	0.30			
	Weather Time...				
	Stock Damage..		Total Down Time.....	0.00	Total Day.....Hrs
Safety Meeting..	0.30	Cum. Down Time (Job)	13.10	Total Hrs (Job).....	130.50

COMMENTS:	<p><b>Total Charge Hrs 10.4 hrs at full rate.</b></p> <p><b>Front crew,line 131 stn 365 - 228, line114 stn 171 - 127, line108 stn 740 -699, line 110 stn 684 - 594 total 316 stn</b></p> <p><b>Back crew line 116 stn 405 - 213, line 123 stn 381 - 189 total 386 stn</b></p>
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SURVEY								
Line No.....	102	STN..	110	STN..	166	Kms.	1.400	
Line No.....	102	STN..	645	STN..	737	Kms.	2.300	
Line No.....	104	STN..	94	STN..	863	Kms.	19.225	
Line No.....	105	STN..	210	STN..	239	Kms.	0.725	
Line No.....	105	STN..	423	STN..	450	Kms.	0.675	
Line No.....	109	STN..	296	STN..	325	Kms.	0.725	
Line No.....	129	STN..	324	STN..	330	Kms.	0.150	
							Total Kms.....	25.200
							Cum. Kms. (Job).....	288.450

CHAINING				
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	
Line No.....	STN..	STN..	Kms.	Total Kms..... 0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job)..... 0.000

RANGING		COMMENTS :
Line No.....	Kms	
Line No.....	Kms	
Line No.....	Kms	Total Kms..... 0.000
Line No.....	Kms	Cum. Kms. (Job)..... 0.00

LINE CLEAR					
Dozer	1	Line No.....	Kms. Cut.....	Hrs.	Total Kms..... 0.000
Dozer	2	Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job)..... 0.000
Dozer	3	Line No.....	Kms. Cut.....	Hrs.	Total Hours..... 0.00
Grader	1	Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job)..... 0.00

DRILLING					L.V.L.						
Rig No.	1	# Mtr	#Holes	Hrs	Unit 6	Line #	117	# Holes	1	# Mtr	56.0
Rig No.	2	# Mtr	#Holes	Hrs		Line #	102	# Holes	1	# Mtr	48.0
Rig No.	3	# Mtr	#Holes	Hrs		Line #	102	# Holes	1	# Mtr	9.0
Rig No.	4	# Mtr	#Holes	Hrs		Line #	139	# Holes	1	# Mtr	56.0
Rig No.	5	# Mtr	#Holes	Hrs		Line #	109	# Holes	1	# Mtr	28.0
Rig No.	6	# Mtr	#Holes	Hrs							
Total # Mtr.....		0.0	Cum # Mtr(Job).....		0.0						
Total Drilled.....		0.0	Cum Drilled(Job)..		0.0	Total Dets.....		5	Cum Dets(Job)		12
Total Hrs.....		0.0	Total # Hrs(Job).....		0.0	Total Charges		197	Total # Charges(Job)		536.5

COMMENT
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# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401 DATE.....21-May-03

Client.....	Essential Petroleum	Party Manager.	Bob Stephenson
Survey Name..	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Rain
State.....	Victoria		

RECORDING					Kms.	SKIPS	PROFILES	TOTALS
Source Line	123	Rec	203.5	Rec	381.5	4.475	177	Profiles..... 259
Source Line	110	Rec	783.5	Rec	763.5	0.525	21	Skips..... 2
Source Line	116	Rec	405.5	Rec	345.5	1.500	61	Kms..... 6.500
Line No.....		Rec		Rec				Cum Kms.. 40.075
Line No.....		Rec		Rec				

HOURS		Travel Time.....	0.50	Down Time -		Extra Charges		
		Test Time.....	0.20		Recorder.....	Extra Hrs.....		0.00
		Recording Time...	3.70		Cables.....	Detours Charge Hrs		0.00
Other Time		Line Change.....	0.60		ATU's.....	Washdowns.....Hrs		0.00
		Recorder Move..	1.80		Detours/Terr...	Extra Other Charge..		0.00
		Detours/Terrain.			W / on Spread.	Total Extra.....Hrs		0.00
		Experimental...			Stock Damage	Total Extra(Job).Hrs		0.00
		QC Spread .....	2.50		Other.....	Processing Hrs.....		0.00
		Shut Down Recorder	0.30					
		Weather Time...						
		Stock Damage..			Total Down Time.....	0.80	Total Day.....Hrs	10.70
		Safety Meeting..	0.30		Cum. Down Time (Job)	11.50	Total Hrs (Job).....	119.80

COMMENTS: **Total Charge Hrs 9.6 hrs at full rate.**  
**Front crew, line 135 stn 101 - 145, line 114 stn 171 - 321, line 108 stn 840 - 741 total 357 stn**  
**Back crew line 123 stn 525 - 381, line 124 stn 282 - 181, line 110 stn 948 - 856 total 340 stn**  
**Other in down time - testing repeater and radios.**

SURVEY									
Line No.....	121	STN..	264	STN..	346	Kms.	2.050		
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.		Total Kms.....	2.050
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	263.250

CHAINING									
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.		Total Kms.....	0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	0.000

RANGING					COMMENTS :				
Line No.....		Kms							
Line No.....		Kms							
Line No.....		Kms						Total Kms.....	0.000
Line No.....		Kms						Cum. Kms. (Job).....	0.00

LINE CLEAR									
Dozer	1	Line No.....		Kms. Cut.....		Hrs.		Total Kms.....	0.000
Dozer	2	Line No.....		Kms. Cut.....		Hrs.		Cum. Kms. (Job).....	0.000
Dozer	3	Line No.....		Kms. Cut.....		Hrs.		Total Hours.....	0.00
Grader	1	Line No.....		Kms. Graded....		Hrs.		Total Hrs (Job).....	0.00

DRILLING					L.V.L.				
Rig No.	1	# Mtr	#Holes	Hrs	Unit 6	Line #	113	# Holes	1
Rig No.	2	# Mtr	#Holes	Hrs		Line #	113	# Holes	1
Rig No.	3	# Mtr	#Holes	Hrs		Line #	101	# Holes	1
Rig No.	4	# Mtr	#Holes	Hrs		Line #	102	# Holes	1
Rig No.	5	# Mtr	#Holes	Hrs		Line #	105	# Holes	1
Rig No.	6	# Mtr	#Holes	Hrs					
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0					
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	# Holes	5	Cum #Holes		7
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	# Mtr	232.5	Cum #mtr		339.5

COMMENT

TRACE ENERGY SERVICES									
DAILY PRODUCTION REPORT									

CREW 401

DATE..... 20-May-03

Client.....	Essential Petroleum	Party Manager.	Bob Stephenson
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Raining
State.....	Victoria		

RECORDING						Kms.	SKIPS	PROFILES	TOTALS
Source Line	110	Rec	883.5	Rec	784.5	2.500	4	96	Profiles..... 142
Line No.....	137	Rec	267.5	Rec	220.5	1.200	2	46	Skips..... 6
Line No.....		Rec		Rec					Kms..... 3.700
Line No.....		Rec		Rec					Cum Kms.. 33.575
Line No.....		Rec		Rec					

HOURS	Travel Time.....	0.50	Down Time -		Extra Charges	
	Test Time.....	0.30	Recorder.....		Extra Hrs.....	0.00
Other Time	Recording Time...	2.60	Cables.....	1.00	Detours Charge Hrs	0.00
	Line Change.....	0.10	ATU's.....		Washdowns.....Hrs	0.00
	Recorder Move..	0.70	Detours/Terr...		Extra Other Charge..	0.00
	Detours/Terrain.		W / on Spread.		Total Extra.....Hrs	0.00
	Experimental...		Stock Damage		Total Extra(Job).Hrs	0.00
	QC Spread .....		Other.....		Processing Hrs.....	0.00
	Lay Out Spread.	5.20				
	Weather Time...					
	Stock Damage..		Total Down Time.....	1.00	Total Day.....Hrs	10.70
	Safety Meeting..	0.30	Cum. Down Time (Job)	13.10	Total Hrs (Job).....	109.10

COMMENTS: **Total Charge Hrs 9.4 hrs at full rate.**  
**Front crew, line 116 stn 405 - 213, line 123 stn 525 - 370, line 137 stn 84 - 139, line 135 stn 183 - 145 total 444 stn**  
**back crew line 114 stn 321 - 220, line 135 stn 439 - 380, line 112 stn 394 - 253, line 124 stn 354 - 280 total 379 stn**

SURVEY							
Line No.....	109	STN..	296	STN..	325	Kms.	0.725
Line No.....	119	STN..	103	STN..	148	Kms.	1.125
Line No.....		STN..		STN..		Kms.	
Line No.....		STN..		STN..		Kms.	Total Kms..... 1.850
Line No.....		STN..		STN..		Kms.	Cum. Kms. (Job)..... 261.200

CHAINING					
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.	Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....	0.000

RANGING		COMMENTS :
Line No.....	Kms	
Line No.....	Kms	
Line No.....	Kms	
Line No.....	Kms	
		Total Kms..... 0.000
		Cum. Kms. (Job)..... 0.00

LINE CLEAR					
Dozer	1	Line No.....	Kms. Cut.....	Hrs.	Total Kms..... 0.000
Dozer	2	Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job)..... 0.000
Dozer	3	Line No.....	Kms. Cut.....	Hrs.	Total Hours..... 0.00
Grader	1	Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job)..... 0.00

DRILLING					L.V.L.						
Rig No.	1	# Mtr	#Holes	Hrs	Unit 6	Line #	125	# Holes	1	# Mtr	51
Rig No.	2	# Mtr	#Holes	Hrs		Line #	108	# Holes	1	# Mtr	56
Rig No.	3	# Mtr	#Holes	Hrs		Line #		# Holes		# Mtr	
Rig No.	4	# Mtr	#Holes	Hrs		Line #		# Holes		# Mtr	
Rig No.	5	# Mtr	#Holes	Hrs		Line #		# Holes		# Mtr	
Rig No.	6	# Mtr	#Holes	Hrs							
Total # Mtr.....		0.0 Cum # Mtr(Job).....		0.0							
Total Drilled.....		0.0 Cum Drilled(Job)..		0.0	# Holes	2			Cum # Holes		2
Total Hrs.....		0.0 Total # Hrs(Job).....		0.0	# Mtr	107			Cum # Mtr		107

COMMENT	Drilling and LVL commenced work on 2003 Nelson Seismic Survey.
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# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE		19-May-03	
Client.....		Essential Petroleum						Party Manager.		Bob Stephenson			
Survey Name.		2003 Nelson Seismic Survey						Client Rep.....		Sam Coniglio			
Area.....		PEP 151						Weather.....		Heavy Showers			
State.....		Victoria											

RECORDING					Kms.		SKIPS		PROFILES		TOTALS	
Source Line	123	Rec	202.5	Rec	178.5	0.625		25	Profiles.....		88	
Source Line	137	Rec	305.5	Rec	268.5	0.950		38	Skips.....		0	
Source Line	110	Rec	884.5	Rec	908.5	0.625		25	Kms.....		2.200	
Line No.....		Rec		Rec					Cum Kms..		29.875	
Line No.....		Rec		Rec								

HOURS		Travel Time.....		0.50		Down Time -		Extra Charges			
		Test Time.....		0.40		Recorder.....		Extra Hrs.....		0.00	
		Recording Time...		1.40		Cables.....		0.60		Detours Charge Hrs	
Other Time		Line Change.....		0.30		ATU's.....				Washdowns.....Hrs	
		Recorder Move..				Detours/Terr...				Extra Other Charge..	
		Detours/Terrain.				W / on Spread.				Total Extra.....Hrs	
		Experimental...				Stock Damage				Total Extra(Job).Hrs	
		QC Spread .....				Other.....				Processing Hrs.....	
		Laying Spread ...		6.90							
		Other .....		0.10							
		Stock Damage..				Total Down Time.....		0.60		Total Day.....Hrs	
		Safety Meeting..		0.30		Cum. Down Time (Job)		12.10		Total Hrs (Job).....	
										98.40	

COMMENTS: **Total Charge Hrs 9.6 hrs at full rate.**  
**Front crew,line 110 stn 730-685,line123 stn 274-370,line137 stn 224-140,line108 stn 870-840,line114 stn 260-220, line135 stn 264-184,Total 375 stn.**  
**Back crew,line122 stn105-416,Total 311 stn.** **Other Shut Down Recorder.**

SURVEY											
Line No.....	102	STN..	166	STN..	645	Kms.	11.975				
Line No.....	109	STN..	325	STN..	341	Kms.	0.400				
Line No.....	117	STN..	101	STN..	259	Kms.	3.950				
Line No.....		STN..		STN..		Kms.		Total Kms.....		16.325	
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....		259.350	

CHAINING											
Line No.....		STN..		STN..		Kms.					
Line No.....		STN..		STN..		Kms.					
Line No.....		STN..		STN..		Kms.					
Line No.....		STN..		STN..		Kms.		Total Kms.....		0.000	
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....		0.000	

RANGING											
COMMENTS :											
Line No.....		Kms									
Line No.....		Kms									
Line No.....		Kms									
Line No.....		Kms									
								Total Kms.....		0.000	
								Cum. Kms. (Job).....		0.00	

LINE CLEAR											
Dozer	1	Line No.....		Kms. Cut.....		Hrs.		Total Kms.....		0.000	
Dozer	2	Line No.....		Kms. Cut.....		Hrs.		Cum. Kms. (Job).....		0.000	
Dozer	3	Line No.....		Kms. Cut.....		Hrs.		Total Hours.....		0.00	
Grader	1	Line No.....		Kms.Graded....		Hrs.		Total Hrs (Job).....		0.00	

DRILLING					PRE LOADING				
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0 Cum # Mtr(Job).....		0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0 Cum Drilled(Job)..		0.0	Total Dets.....		0	Cum Dets(Job)	0
Total Hrs.....		0.0 Total # Hrs(Job).....		0.0	Total Charges		0	Total # Charges(Job)	0

COMMENT

**TRACE ENERGY SERVICES**  
**DAILY PRODUCTION REPORT**

DATE..... 18-May-03

Party Manager.	Bob Stephenson
Client Rep.....	Sam Coniglio
Weather.....	Rain

RECORDING							Kms.	SKIPS	PROFILES	TOTALS
Source Line	124	Rec	210.5	Rec	113.5	2.450	7	91	Profiles.....	244
Source Line	123	Rec	145.5	Rec	177.5	0.800		33	Skips.....	21
Source Line	110	Rec	909.5	Rec	948.5	0.975		40	Kms.....	6.525
Source Line	139	Rec	699.5	Rec	647.5	1.300	14	38	Cum Kms..	27.675
Source Line	108	Rec	994.5	Rec	969.5	0.625		26		
Source Line	137	Rec	321.5	Rec	306.5	0.375		16		

HOURS	Travel Time.....	0.70	Down Time -		Extra Charges	
	Test Time.....	0.30	Recorder.....		Extra Hrs.....	0.00
Other Time	Recording Time...	4.20	Cables.....	0.60	Detours Charge Hrs	0.00
	Line Change.....	0.80	ATU's.....		Washdowns.....Hrs	0.00
	Recorder Move..		Detours/Terr...		Extra Other Charge..	0.00
	Detours/Terrain.		W / on Spread.		Total Extra.....Hrs	0.00
	Experimental...		Stock Damage		Total Extra(Job).Hrs	0.00
	QC Spread.....	3.60	Vibes .....		Processing Hrs.....	0.00
	Change Batteries	0.50				
	Weather Time...					
	Stock Damage..		Total Down Time.....	0.60	Total Day.....Hrs	11.00
	Safety Meeting..	0.30	Cum. Down Time (Job)	10.70	Total Hrs (Job).....	87.80

COMMENTS:	<p><b>Total Charge Hrs 10.1 hrs at full rate.</b></p> <p><b>Front Crew line 135 stn 355-265, Total 90 stn.</b></p> <p><b>Back crew line 124 stn 446-346, line 122 stn 416-361, Total 155stn.</b></p>
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SURVEY							
Line No.....	101	STN..	505	STN..	650	Kms.	3.625
Line No.....	105	STN..	239	STN..	423	Kms.	4.600
Line No.....		STN..		STN..		Kms.	
Line No.....		STN..		STN..		Kms.	Total Kms..... 8.225
Line No.....		STN..		STN..		Kms.	Cum. Kms. (Job)..... 243.025

CHAINING					
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.		
Line No.....	STN..	STN..	Kms.	Total Kms.....	0.000
Line No.....	STN..	STN..	Kms.	Cum. Kms. (Job).....	0.000

RANGING		COMMENTS :
Line No.....	Kms	
Line No.....	Kms	
Line No.....	Kms	Total Kms..... 0.000
Line No.....	Kms	Cum. Kms. (Job)..... 0.00

LINE CLEAR					
Dozer	1 Line No.....	Kms. Cut.....	Hrs.	Total Kms.....	0.000
Dozer	2 Line No.....	Kms. Cut.....	Hrs.	Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....	Kms. Cut.....	Hrs.	Total Hours.....	0.00
Grader	1 Line No.....	Kms.Graded....	Hrs.	Total Hrs (Job).....	0.00

DRILLING					PRE LOADING			Elect Dets	
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....		0	Cum Dets(Job)	0
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges		0	Total # Charges(Job)	0

COMMENT
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# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401 DATE..... 17-May-03

Client.....	Essential Petroleum	Party Manager.	Bob Stephenson
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Raining
State.....	Victoria		

RECORDING				Kms.		SKIPS	PROFILES	TOTALS
Scource Line	124	Rec	344.5	Rec	211.5	3.325	131	Profiles..... 131
Scource Line		Rec		Rec				Skips..... 2
Reciever Line	124/122/110	Rec		Rec				Kms..... 3.325
Reciever Line	123/116/137	Rec		Rec				Cum Kms.. 21.150
Reciever Line	114/135	Rec		Rec				

HOURS		Travel Time.....		0.50	Down Time -		Extra Charges	
		Test Time.....			Recorder.....		Extra Hrs.....	0.00
		Recording Time...		2.30	Cables.....		1.40	Detours Charge Hrs 0.00
Other Time	Line Change.....				ATU's.....			Washdowns.....Hrs 0.00
	Recorder Move..				Detours/Terr...			Extra Other Charge.. 0.00
	Detours/Terrain.				W / on Spread.			Total Extra.....Hrs 0.00
	Experimental...				Stock Damage			Total Extra(Job).Hrs 0.00
	QC Spread .....			3.00	Vibes .....			Processing Hrs.....
	Lay Tranverse .....			3.00				
	Weather Time...							
	Stock Damage..				Total Down Time.....		1.40	Total Day.....Hrs 10.50
	Safety Meeting..			0.30	Cum. Down Time (Job)		10.10	Total Hrs (Job)..... 76.80

COMMENTS: **Total Charge Hrs 8.8 hrs at full rate.**  
**Front crew,line 137 stn 321-224,line 114 stn 321-260,line112 stn 394-253,line135 stn 439-356, Total 382 stn.**  
**Back crew, line 124 stn 488-447, Total 41 stn,**  
**Crew finished early due to rain. Had to remove road crossings before failing light safely.**

SURVEY									
Line No.....	101	STN..	280	STN..	505	Kms.	5.625		
Line No.....	109	STN..	112	STN..	290	Kms.	4.450		
Line No.....	111	STN..	340	STN..	389	Kms.	1.225		
Line No.....	113	STN..	350	STN..	377	Kms.	0.675	Total Kms.....	13.175
Line No.....	121	STN..	101	STN..	149	Kms.	1.200	Cum. Kms. (Job).....	234.800

CHAINING									
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.		Total Kms.....	0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	0.000

RANGING					COMMENTS :				
Line No.....				Kms					
Line No.....				Kms					
Line No.....				Kms				Total Kms.....	0.000
Line No.....				Kms				Cum. Kms. (Job).....	0.00

LINE CLEAR									
Dozer	1	Line No.....			Kms. Cut.....		Hrs.	Total Kms.....	0.000
Dozer	2	Line No.....			Kms. Cut.....		Hrs.	Cum. Kms. (Job).....	0.000
Dozer	3	Line No.....			Kms. Cut.....		Hrs.	Total Hours.....	0.00
Grader	1	Line No.....			Kms.Graded....		Hrs.	Total Hrs (Job).....	0.00

DRILLING					PRE LOADING				
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	Elect Dets	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....		0.0	Total # Holes.....		0	Cum #Holes(Job) 0
Total Drilled.....		0.0	Cum Drilled(Job)..		0.0	Total Dets.....		0	Cum Dets(Job) 0
Total Hrs.....		0.0	Total # Hrs(Job).....		0.0	Total Charges		0	Total # Charges(Job) 0

COMMENT

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401 DATE..... 16-May-03

Client.....	Essential Petroleum	Party Manager.	Bob Stephenson
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Fine
State.....	Victoria		

RECORDING					Kms.	SKIPS	PROFILES	TOTALS
Scource Line	124	Rec	488.5	Rec	344.5	3.600	140	Profiles..... 140
Scource Line		Rec		Rec				Skips..... 4
Reciever Line	124/122/110	Rec		Rec				Kms..... 3.600
Reciever Line	123/116/137	Rec		Rec				Cum Kms.. 17.825
Reciever Line		Rec		Rec				

HOURS	Travel Time.....	1.00	Down Time -	Extra Charges		
	Test & Other	0.70	Recorder.....	Extra Hrs.....	0.00	
	Recording Time...	2.10	Cables.....	Detours Charge Hrs	0.00	
Other Time	Line Change.....		ATU's.....	Washdowns.....Hrs	0.00	
	Recorder Move..	1.20	Detours/Terr...	Extra Other Charge..	0.00	
	Detours/Terrain.		W / on Spread.	Total Extra.....Hrs	0.00	
	Experimental...		Stock Damage	Total Extra(Job).Hrs	0.00	
	QC Spread .....	3.00	Other.....	Processing Hrs.....		
	Lay Spread .....	1.40				
	Weather Time...					
	Stock Damage..		Total Down Time.....	1.30	Total Day.....Hrs	11.00
	Safety Meeting..	0.30	Cum. Down Time (Job)	8.70	Total Hrs (Job).....	66.30

COMMENTS: **Total Charge Hrs 9.4 hrs at full rate.**  
**Front Crew Line 110 Stn 948-730 218stn, Line 139 stn 699-555 144stn, Line 108 Stn 994-870 124 stn, Total 486 stn**  
**13 people from crew went to Portland for Culture Heritage induction.**

SURVEY								
Line No.....	101	STN..	214	STN..	280	Kms.	1.650	
Line No.....	103	STN..	86	STN..	190	Kms.	2.600	
Line No.....	108	STN..	397	STN..	569	Kms.	4.300	
Line No.....	115	STN..	191	STN..	246	Kms.	1.375	Total Kms..... 9.925
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job)..... 221.625

CHAINING								
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		
Line No.....		STN..		STN..		Kms.		Total Kms..... 0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job)..... 0.000

RANGING				COMMENTS :				
Line No.....		Kms						
Line No.....		Kms						
Line No.....		Kms						Total Kms..... 0.000
Line No.....		Kms						Cum. Kms. (Job)..... 0.00

LINE CLEAR								
Dozer	1 Line No.....			Kms. Cut.....	Hrs.		Total Kms.....	0.000
Dozer	2 Line No.....			Kms. Cut.....	Hrs.		Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....			Kms. Cut.....	Hrs.		Total Hours.....	0.00
Grader	1 Line No.....			Kms.Graded....	Hrs.		Total Hrs (Job).....	0.00

DRILLING					PRE LOADING		Elect Dets	
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....	0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....	0	Cum Dets(Job)	0
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges	0	Total # Charges(Job)	0

COMMENT

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401 DATE..... 15-May-03

Client.....	Essential Petroleum	Party Manager.	Bob Stephenson
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Fine
State.....	Victoria		

RECORDING		Kms.	SKIPS	PROFILES	TOTALS
Source Line	Rec	Rec		Profiles.....	0
Reciever Line	Rec	Rec		Skips.....	0
Reciever Line	Rec	Rec		Kms.....	0.000
Reciever Line	Rec	Rec		Cum Kms..	14.225
Reciever Line	Rec	Rec			

HOURS	Travel Time.....	1.00	Down Time -	Extra Charges	
	Test Time.....		Recorder.....	Extra Hrs.....	0.00
	Recording Time...		Cables.....	Detours Charge Hrs	0.00
Other Time	Line Change.....		ATU's.....	Washdowns.....Hrs	0.00
	Recorder Move..		Detours/Terr...	Extra Other Charge..	0.00
	Detours/Terrain.		W / on Spread.	Total Extra.....Hrs	0.00
	Experimental...		Stock Damage	Total Extra(Job).Hrs	0.00
	Other Charges .....	9.20	Other.....	Processing Hrs.....	
	Wait on Spread.				
	Weather Time...				
	Stock Damage..		Total Down Time.....	0.00	Total Day.....Hrs 10.50
	Safety Meeting..	0.30	Cum. Down Time (Job)	7.40	Total Hrs (Job)..... 55.30

COMMENTS: **Total Charge Hrs 10.2 hrs at full rate. Other charges, picking up & relaying spread.**  
**Front crew,Line 123 stn 381-145,Line 122 stn 360-105,Line 124 stn 190-113, Total 568 stn.**  
**Back crew,LINE 146 STN 476-101,Line 167 stn 284-89, Line 169 stn 310-101, Line 148 stn 418-101, Line 171 stn 101-220, Total 1215 stn**  
**Ran experimental tests while relaying spread.**

SURVEY									
Line No.....	108	STN..	340	STN..	397	Kms.	1.425		
Line No.....	111	STN..	113	STN..	140	Kms.	0.675		
Line No.....	113	STN..	60	STN..	101	Kms.	1.025		
Line No.....	107	STN..	96	STN..	168	Kms.	1.800	Total Kms.....	4.925
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	211.700

CHAINING									
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.		Total Kms.....	0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	0.000

RANGING									
Line No.....		Kms							
Line No.....		Kms							
Line No.....		Kms						Total Kms.....	0.000
Line No.....		Kms						Cum. Kms. (Job).....	0.00

LINE CLEAR									
Dozer	1 Line No.....			Kms. Cut.....		Hrs.		Total Kms.....	0.000
Dozer	2 Line No.....			Kms. Cut.....		Hrs.		Cum. Kms. (Job).....	0.000
Dozer	3 Line No.....			Kms. Cut.....		Hrs.		Total Hours.....	0.00
Grader	1 Line No.....			Kms.Graded....		Hrs.		Total Hrs (Job).....	0.00

DRILLING						PRE LOADING			
Rig No.	1	# Mtr	#Holes	Hrs		1	# Holes	# Dets	# Charges
Rig No.	2	# Mtr	#Holes	Hrs		2	# Holes	# Dets	# Charges
Rig No.	3	# Mtr	#Holes	Hrs		3	# Holes	# Dets	# Charges
Rig No.	4	# Mtr	#Holes	Hrs		4	# Holes	# Dets	# Charges
Rig No.	5	# Mtr	#Holes	Hrs		5	# Holes	# Dets	# Charges
Rig No.	6	# Mtr	#Holes	Hrs		6	# Holes	# Dets	# Charges
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0		Total # Holes.....	0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0		Total Dets.....	0	Cum Dets(Job)	0
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0		Total Charges	0	Total # Charges(Job)	0

COMMENT

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401 DATE..... 14-May-03

Client.....	Essential Petroleum	Party Manager.	Bob Stephenson
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Early Fog
State.....	Victoria		

RECORDING					Kms.	SKIPS	PROFILES	TOTALS	
Source Line	167	Rec	252.5	Rec	89.5	4.075	9	154	Profiles..... 345
Reciever Line	146	Rec	101.5	Rec	292.5	4.775	0	191	Skips..... 9
Reciever Line	46 / 67 / 48	Rec		Rec					Kms..... 8.850
Reciever Line		Rec		Rec					Cum Kms.. 14.225
Reciever Line		Rec		Rec					

HOURS	Travel Time.....	1.00	Down Time -	Extra Charges		
	Test Time.....		Recorder.....	Extra Hrs.....	0.00	
	Recording Time...	6.80	Cables.....	Detours Charge Hrs	0.00	
Other Time	Line Change.....	0.30	ATU's.....	Washdowns.....Hrs	0.00	
	Recorder Move..		Detours/Terr...	Extra Other Charge..	0.00	
	Detours/Terrain.		W / on Spread.	Total Extra.....Hrs	0.00	
	Experimental...		Stock Damage	Total Extra(Job).Hrs	0.00	
	QC spread	1.50	Other.....	Processing Hrs.....		
	Vibes Refuel....	0.40				
	Down load to disk	0.30				
	Stock Damage..		Total Down Time.....	0.40	Total Day.....Hrs	11.00
	Safety Meeting..	0.30	Cum. Down Time (Job)	7.40	Total Hrs (Job).....	44.80

COMMENTS: **Total Charge Hrs 10.3 hrs at full rate.**  
**Completed recording on the Kentbruck block.**  
**Line crew laying traverse cables and putting in river crossing.**

SURVEY									
Line No.....	101	STN..	101	STN..	214	Kms.	2.825		
Line No.....	102	STN..	737	STN..	986	Kms.	6.225		
Line No.....	115	STN..	246	STN..	296	Kms.	1.250		
Line No.....	110	STN..	112	STN..	320	Kms.	5.200	Total Kms.....	15.500
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	206.775

CHAINING									
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.		Total Kms.....	0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	0.000

RANGING									
COMMENTS :									
Line No.....		Kms							
Line No.....		Kms							
Line No.....		Kms						Total Kms.....	0.000
Line No.....		Kms						Cum. Kms. (Job).....	0.00

LINE CLEAR									
Dozer	1	Line No.....			Kms. Cut.....	Hrs.		Total Kms.....	0.000
Dozer	2	Line No.....			Kms. Cut.....	Hrs.		Cum. Kms. (Job).....	0.000
Dozer	3	Line No.....			Kms. Cut.....	Hrs.		Total Hours.....	0.00
Grader	1	Line No.....			Kms.Graded....	Hrs.		Total Hrs (Job).....	0.00

DRILLING					PRE LOADING			
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....	0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job).....	0.0	Total Dets.....	0	Cum Dets(Job)	0
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges	0	Total # Charges(Job)	0

COMMENT

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401										DATE..... 13-May-03	
Client.....		Essential Petroleum				Party Manager.		Bob Stephenson			
Survey Name.		2003 Nelson Seismic Survey				Client Rep.....		Sam Coniglio			
Area.....		PEP 151				Weather.....		Fine			
State.....		Victoria									

RECORDING				Kms.		SKIPS		PROFILES		TOTALS	
Source Line	146	Rec	475.5	Rec	292.5	4.575	5	179	Profiles.....	211	
Scource Line	167	Rec	284.5	Rec	252.5	0.800	0	32	Skips.....	5	
Reciever Line	46 / 67 / 48	Rec		Rec					Kms.....	5.375	
Reciever Line		Rec		Rec					Cum Kms..	5.375	
Reciever Line		Rec		Rec							

HOURS	Travel Time.....		1.20		Down Time -				Extra Charges			
	Test Time.....				Recorder.....		1.00		Extra Hrs.....		0.00	
	Recording Time...		4.80		Cables.....		0.80		Detours Charge Hrs		0.00	
	Other Time	Line Change....				ATU's.....				Washdowns.....Hrs		0.00
		Recorder Move..				Detours/Terr...				Extra Other Charge..		0.00
		Detours/Terrain.				W / on Spread.				Total Extra.....Hrs		0.00
		Experimental...				Stock Damage				Total Extra(Job).Hrs		0.00
	Other Charge...				Vibes .....				Processing Hrs.....			
	Qc Spread .....		2.20									
	Bogged Vibe ...		1.00									
Stock Damage..				Total Down Time.....		1.80		Total Day.....Hrs		11.30		
Safety Induction		0.30		Cum. Down Time (Job)		7.00		Total Hrs (Job).....		33.80		

COMMENTS: **Total Charge Hrs 9.2hrs at full rate.**  
**Front crew Line 124 Stn 189-101, 88stn**  
**Down time due to wiring problem in recorder and line breaks.**

SURVEY									
Line No.....	111	STN..	140	STN..	340	Kms.	5.000		
Line No.....	113	STN..	243	STN..	350	Kms.	2.675		
Line No.....	115	STN..	101	STN..	191	Kms.	2.250		
Line No.....	139	STN..	655-675	STN..	697-699	Kms.	0.550	Total Kms.....	12.250
Line No.....	129	STN..	253	STN..	324	Kms.	1.775	Cum. Kms. (Job).....	191.275

CHAINING									
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.		Total Kms.....	0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	0.000

RANGING										COMMENTS :	
Line No.....		Kms									
Line No.....		Kms									
Line No.....		Kms									
Line No.....		Kms									
							Total Kms.....	0.000			
							Cum. Kms. (Job).....	0.00			

LINE CLEAR									
Dozer	1	Line No.....		Kms. Cut.....		Hrs.		Total Kms.....	0.000
Dozer	2	Line No.....		Kms. Cut.....		Hrs.		Cum. Kms. (Job).....	0.000
Dozer	3	Line No.....		Kms. Cut.....		Hrs.		Total Hours.....	0.00
Grader	1	Line No.....		Kms.Graded....		Hrs.		Total Hrs (Job).....	0.00

DRILLING					PRE LOADING				
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....		0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....		0	Cum Dets(Job)	0
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges		0	Total # Charges(Job)	0

COMMENT

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401 DATE..... 12-May-03

Client.....	Essential Petroleum	Party Manager.	Bob Stephenson
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Fine
State.....	Victoria		

RECORDING				Kms.	SKIPS	PROFILES	TOTALS
Source Line	OEP03A-46	Rec	475.5	Rec	0.050	1	Profiles..... 1
Reciever Line	OEP03A-67	Rec		Rec			Skips..... 1
Reciever Line	OEP03A-48	Rec		Rec			Kms..... 0.000
Reciever Line		Rec		Rec			Cum Kms.. 0.000
Reciever Line		Rec		Rec			

HOURS		Travel Time.....	1.00	Down Time -	Extra Charges	
		Test Time.....		Recorder.....	Extra Hrs.....	0.00
		Recording Time...	0.10	Cables.....	Detours Charge Hrs	0.00
Other Time		Line Change.....		ATU's.....	Washdowns.....Hrs	0.00
		Recorder Move..		Detours/Terr...	Extra Other Charge..	0.00
		Detours/Terrain.		W / on Spread.	Total Extra.....Hrs	0.00
		Experimental...	0.60	Stock Damage	Total Extra(Job).Hrs	0.00
		Point Source Test ...	0.80	Vibes.....	Processing Hrs.....	
		Relay Spread ....				
		QC Spread .....	3.00			
		Stock Damage..		Total Down Time.....	5.20	Total Day.....Hrs 11.00
		Safety Meeting..	0.30	Cum. Down Time (Job)	5.20	Total Hrs (Job)..... 22.50

COMMENTS: **Line crew had to relay cables on line 48 due to a mistake when laying cable the first time.**  
**Front crew Line 124 stn 488-190, Total 298 stn**  
**Total Charge Hrs 5.5 hrs at full rate.**

SURVEY									
Line No.....	133	STN..	75	STN..	101	Kms.	0.650		
Line No.....	135	STN..	264	STN..	399	Kms.	3.375		
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.		Total Kms.....	4.025
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	179.025

CHAINING									
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.			
Line No.....		STN..		STN..		Kms.		Total Kms.....	0.000
Line No.....		STN..		STN..		Kms.		Cum. Kms. (Job).....	0.000

RANGING					COMMENTS :				
Line No.....				Kms					
Line No.....				Kms					
Line No.....				Kms				Total Kms.....	0.000
Line No.....				Kms				Cum. Kms. (Job).....	0.00

LINE CLEAR									
Dozer	1	Line No.....			Kms. Cut.....		Hrs.	Total Kms.....	0.000
Dozer	2	Line No.....			Kms. Cut.....		Hrs.	Cum. Kms. (Job).....	0.000
Dozer	3	Line No.....			Kms. Cut.....		Hrs.	Total Hours.....	0.00
Grader	1	Line No.....			Kms.Graded....		Hrs.	Total Hrs (Job).....	0.00

DRILLING					PRE LOADING				
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	# Charges	
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges	
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges	
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges	
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges	
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges	
Total # Mtr.....			0.0 Cum # Mtr(Job).....	0.0	Total # Holes.....	0	Cum #Holes(Job)		0
Total Drilled.....			0.0 Cum Drilled(Job)..	0.0	Total Dets.....	0	Cum Dets(Job)		0
Total Hrs.....			0.0 Total # Hrs(Job).....	0.0	Total Charges	0	Total # Charges(Job)		0

COMMENT

# TRACE ENERGY SERVICES

## DAILY PRODUCTION REPORT

CREW 401 DATE..... 11-May-03

Client.....	Essential Petroleum	Party Manager..	Bob Stephenson
Survey Name.	2003 Nelson Seismic Survey	Client Rep.....	Sam Coniglio
Area.....	PEP 151	Weather.....	Light Rain
State.....	Victoria		

RECORDING	Kms.	SKIPS	PROFILES	TOTALS
Source Line	Rec	Rec	Profiles.....	0
Reciever Line	Rec	Rec	Skips.....	0
Reciever Line	Rec	Rec	Kms.....	0.000
Reciever Line	Rec	Rec	Cum Kms..	0.000
Reciever Line	Rec	Rec		

HOURS	Travel Time.....	1.10	Down Time -	Extra Charges	
	Test Time.....		Recorder.....	Extra Hrs.....	
	Recording Time...		Cables.....	Detours Charge Hrs	
Other Time	Line Change.....		ATU's.....	Washdowns.....Hrs	
	Recorder Move..		Detours/Terr...	Extra Other Charge..	
	Hardwire Sims ....	0.50	W / on Spread.	Total Extra.....Hrs	0.00
	Experimental...	1.10	Stock Damage	Total Extra(Job).Hrs	0.00
	QC Spread .....	1.80	Other.....	Processing Hrs.....	
	Lay Spread .....	5.50			
	Induction Meeting ..	1.00			
	Stock Damage..		Total Down Time.....	0.00	Total Day.....Hrs 11.50
	Safety Meeting..	0.50	Cum. Down Time (Job)	0.00	Total Hrs (Job)..... 11.50

**COMMENTS:** Induction meeting held with park ranger at BP roadhouse in Nelson at start of day, crew held a start-up meeting before driving to the lines to lay spread, hardwire sims and experimental tests were run while crew laid spread. Total Charge hrs 10.0 hrs at full rate, 1.0 hrs at standby rate.

<b>SURVEY</b>						
Line No.....	106	STN..	130	STN..	180	Kms. 1.250
Line No.....		STN..	314	STN..	345	Kms. 0.775
Line No.....	135	STN..	399	STN..	439	Kms. 1.000
Line No.....	113	STN..	101	STN..	243	Kms. 3.550
Line No.....		STN..		STN..		Kms.
						Total Kms..... 6.575
						Cum. Kms. (Job)..... 175.000

<b>CHAINING</b>						
Line No.....		STN..		STN..		Kms.
Line No.....		STN..		STN..		Kms.
Line No.....		STN..		STN..		Kms.
Line No.....		STN..		STN..		Kms.
Line No.....		STN..		STN..		Kms.
						Total Kms..... 0.000
						Cum. Kms. (Job)..... 0.000

<b>RANGING</b>						
Line No.....		Kms				
Line No.....		Kms				
Line No.....		Kms				Total Kms..... 0.000
Line No.....		Kms				Cum. Kms. (Job)..... 0.00

<b>LINE CLEAR</b>						
Dozer	1	Line No.....		Kms. Cut.....	Hrs.	Total Kms..... 0.000
Dozer	2	Line No.....		Kms. Cut.....	Hrs.	Cum. Kms. (Job)..... 0.000
Dozer	3	Line No.....		Kms. Cut.....	Hrs.	Total Hours..... 0.00
Grader	1	Line No.....		Kms.Graded....	Hrs.	Total Hrs (Job)..... 0.00

<b>DRILLING</b>					<b>PRE LOADING</b>			
Rig No.	1	# Mtr	#Holes	Hrs	1	# Holes	# Dets	Elect Dets
Rig No.	2	# Mtr	#Holes	Hrs	2	# Holes	# Dets	# Charges
Rig No.	3	# Mtr	#Holes	Hrs	3	# Holes	# Dets	# Charges
Rig No.	4	# Mtr	#Holes	Hrs	4	# Holes	# Dets	# Charges
Rig No.	5	# Mtr	#Holes	Hrs	5	# Holes	# Dets	# Charges
Rig No.	6	# Mtr	#Holes	Hrs	6	# Holes	# Dets	# Charges
Total # Mtr.....		0.0	Cum # Mtr(Job).....	0.0	Total # Holes.....	0	Cum #Holes(Job)	0
Total Drilled.....		0.0	Cum Drilled(Job)..	0.0	Total Dets.....	0	Cum Dets(Job)	0
Total Hrs.....		0.0	Total # Hrs(Job).....	0.0	Total Charges	0	Total # Charges(Job)	0

**COMMENT** Front crew, Line 146 stn 100-476, 376stn, Line 167 stn 89-284, 195stn, Line 169 stn 101-310, 209stn, Line 148 stn 101-300, 199stn. Total 979 stn.

Date	Travel Time	Test & Other	Recording Time	Line Change	Recorder Move	Shut Down Recorder	Experimental	QC Spread	Communication Delay	Lay Spread/Traverse	Other	Wait on, Pick up & relay Spread	Initial Safety Meeting	Safety Meetings	Down Time	Total Chargeable Hours	Total Stand-by	Total Non Chargeable	Total Operational Hours	Total Km's
11 May 2003	1.10						1.10	1.80		5.50	0.50		1.00	0.50		10.00	1.00	0.50	11.50	0.0000
12 May 2003	1.00		0.10				0.60	3.00			0.80			0.30	5.20	5.50	-	5.50	11.00	0.0500
13 May 2003	1.20		4.80					2.20			1.00			0.30	1.80	9.20	-	2.10	11.30	5.3500
14 May 2003	1.00		6.80	0.30				1.50			0.70			0.30	0.40	10.30	-	0.70	11.00	8.8250
15 May 2003	1.00											9.20		0.30		10.20	-	0.30	10.50	0.0000
16 May 2003	1.00	0.70	2.10		1.20			3.00		1.40				0.30	1.30	9.40	-	1.60	11.00	3.6000
17 May 2003	0.50		2.40					3.00		2.90				0.30	1.50	8.80	-	1.80	10.60	3.3250
18 May 2003	0.70	0.30	4.20	0.80				3.60			0.50			0.30	0.60	10.10	-	0.90	11.00	6.5250
19 May 2003	0.50	0.40	1.60	0.30				3.40				3.40		0.30	0.60	9.60	-	0.90	10.50	2.2000
20 May 2003	0.50	0.30	2.60	0.10	0.70					5.20				0.30	1.00	9.40	-	1.30	10.70	3.7000
21 May 2003	0.50	0.20	3.90	0.60	1.20			3.20						0.30	0.80	9.60	-	1.10	10.70	6.5000
22 May 2003	0.50	0.20	5.20	0.20	4.00	0.30								0.30		10.40	-	0.30	10.70	8.1000
23 May 2003	0.50	0.20	2.80	0.30		0.40	0.40	5.00						0.30	0.80	9.60	-	1.10	10.70	5.5000
24 May 2003	0.50	0.10	3.80			0.20		4.40						0.30	1.30	9.00	-	1.60	10.60	7.7750
25 May 2003	0.50	0.10	3.60		1.60	0.30		4.10						0.30	0.20	10.20	-	0.50	10.70	10.2750
26 May 2003	0.50	0.30	2.60	0.30		0.30		5.20	0.30					0.30	0.70	9.50	-	1.00	10.50	7.4750
27 May 2003	0.50	0.20	4.70	0.80		0.30		2.20						0.30	1.30	8.70	-	1.60	10.30	13.5750
28 May 2003	0.50	0.10	3.00	0.20	2.50	0.20		3.30						0.30	0.40	9.80	-	0.70	10.50	9.4750
29 May 2003	0.50	0.10	2.90	0.60	1.00	0.20		4.40	0.50					0.30		10.20	-	0.30	10.50	6.5500
30 May 2003	0.50	0.20	3.00	0.80	0.30	0.20		4.80						0.30	0.30	9.80	-	0.60	10.40	6.9750
31 May 2003	0.40	0.10	3.40	0.80		0.30		2.00			2.30			0.30	0.20	9.30	-	0.50	9.80	8.1000
1 June 2003	0.30	0.20	3.40	0.40	1.40	0.30		1.50				1.80		0.30	1.00	9.30	-	1.30	10.60	7.3750
2 June 2003	0.30	0.30	1.00	0.10				4.50					3.50	0.30	0.50	6.20	3.50	0.80	10.50	2.3500
3 June 2003	0.30	0.10	2.90	1.40		0.20		4.30					0.80	0.30	0.40	9.20	0.80	0.70	10.70	7.5500
4 June 2003	0.30	0.20	2.00			0.10		5.70			0.40			0.30	2.00	8.70	-	2.30	11.00	4.0500
5 June 2003	0.30	0.20	3.10	0.40		0.20		3.30				2.00	0.40	0.30	0.70	9.50	0.40	1.00	10.90	6.3500
6 June 2003	0.30	0.20	1.70	0.10		0.20		5.40				0.20	2.10	0.30	0.40	8.10	2.10	0.70	10.90	3.8500
7 June 2003	0.30	0.40	2.20		0.80	0.20		3.40			0.10	3.40		0.30		10.80	-	0.30	11.10	4.3500
8 June 2003	0.50	0.20	3.70	1.00		0.30	0.60	4.40					0.30	0.30	0.20	10.70	0.30	0.50	11.50	6.7750
9 June 2003	0.50	0.20	4.70	1.10		0.30		2.70			1.20			0.30	0.20	10.70	-	0.50	11.20	9.7000
10 June 2003	0.30	0.10	3.70	1.40		0.20		3.70	0.10	0.50	0.80			0.30	0.10	10.80	-	0.40	11.20	8.4000
11 June 2003	0.30	0.20	1.30	0.10	0.40	0.20		7.50				0.70		0.30	0.20	10.70	-	0.50	11.20	3.0750
12 June 2003	0.30	0.30	4.20	0.50				2.80			0.10		2.30	0.30		8.20	2.30	0.30	10.80	9.9750
13 June 2003	0.30	0.10	1.40		0.30	0.50		3.70					3.70	0.30	0.10	6.30	3.70	0.40	10.40	3.1250
14 June 2003	0.90	0.10	2.90	0.20	0.50	0.50		4.70			1.00			0.30	0.30	10.80	-	0.60	11.40	7.0000
15 June 2003	1.00	0.10	4.20	0.50				4.00					0.30	0.30	1.00	9.80	0.30	1.30	11.40	8.2500
16 June 2003	1.00	0.10	4.50	1.20		0.10		3.90			0.20			0.30	0.40	11.00	-	0.70	11.70	17.6500
17 June 2003	0.90	0.10	6.10	0.50	0.70	0.20		2.20						0.30	0.30	10.70	-	0.60	11.30	14.0250
18 June 2003	0.90	0.10	4.30	2.30	0.60	0.20		1.50						0.30	1.20	9.90	-	1.50	11.40	9.4750
19 June 2003	1.00	0.10	2.80	0.20				2.80					0.80	0.30	2.70	6.90	0.80	3.00	10.70	6.5000
20 June 2003	1.00	0.10	4.90	1.60		0.20	0.10	2.70			0.20			0.30	0.30	10.80	-	0.60	11.40	9.5000
21 June 2003	1.00	0.10	4.40	1.20		0.20		1.30			0.10		2.60	0.30		8.30	2.60	0.30	11.20	10.5000
22 June 2003	1.00											7.00				8.00	-	-	8.00	
23 June 2003	0.50											5.00				5.50	-	-	5.50	
Total	27.40	7.00	132.90	20.30	17.20	6.80	2.80	136.10	0.90	15.50	9.90	32.70	17.80	12.80	30.40	409.50	17.80	43.20	470.50	283.700



**Vibroseis Acquisition Parameters.****Instrumentation:**

Instruments : Sercel SN388  
 No. Channels : Variable + 2Aux,  
                   Auxiliary Channels : # 1, Autocorrelation @ 4500ms  
   # 2, Autocorrelation @ 500ms  
 Tape Format : IEEE SEG-D, Demux, 75742 BPI, Dual Copy.  
 Filters : Hi-cut 125 Hz, 120 dB/Octave.  
           Lo-cut 3 Hz, 12 dB/Octave.  
           HPE Out.  
 Sample Rate : 2ms  
 Record Length : 10s (5sec sweep, 5sec listening time).  
 Pre-Amp Gain : 24 dB  
 Correlation : Correlation After Sum, Zero Phase.  
 Noise Edit : Diversity stack.  
 System Polarity : SEG (VCU "0" deg, ESG "+90" deg).  
 Encode Sweep Generator : Pelton Advance II, Version 5C3

**Source Data.**

Vibrators : 4 x LRS 315 Mounted on Paystar 6x6 Truck.  
 Electronics (VCU) : Pelton Advance II, Version 5C3.  
 Sweep Frequency : 5-90 Hz, Linear Upsweep.  
 Sweep Length : 5sec.  
 Sweeps /VP : 4 (standing)  
 Array : 4 Vib in line, 12.5m P-P, No MU, Array Length 37.5m  
 Drive Level : 90% ( 100% = 40,000 lbs).  
 Amplitude Control : Peak and Trough.  
 Force Amplitude : Automatic (Keyboard Sweep).  
 Cosine Taper : 0.2s  
 Phase Locking : Ground Force, time correction every cycle.  
 Vibrator QC : Vibrasig with PSS.

**Receiver Data.**

Model/Res. Freq. : Sensor SM-24, 10Hz.  
 No./String / Connection : 6 in series  
 Coil Resistance : 430 Ohms.  
 Open Circuit Damping : 0.25  
 Damping Resistor : 1000 Ohms  
 Damping With Shunt : 0.69  
 Harmonic Distortion : <2.0% at 12Hz

**Field Parameters.**

Station Interval : 25m  
 Receiver Group Interval : 25m  
   "          "      Location : Centred on stations.  
   "          "      Array : 6 phones in-line @ 2m spacing.  
 Stn Interval : 25m  
   "      Location : Centred on station.  
   "      Array Length : 10m  
 Centre Gap : None  
 Spread Geometry : Multi line in a 1.2km radius from source  
 Multiplicity : Variable



**Dynamic  
Satellite  
Surveys**

**03021**

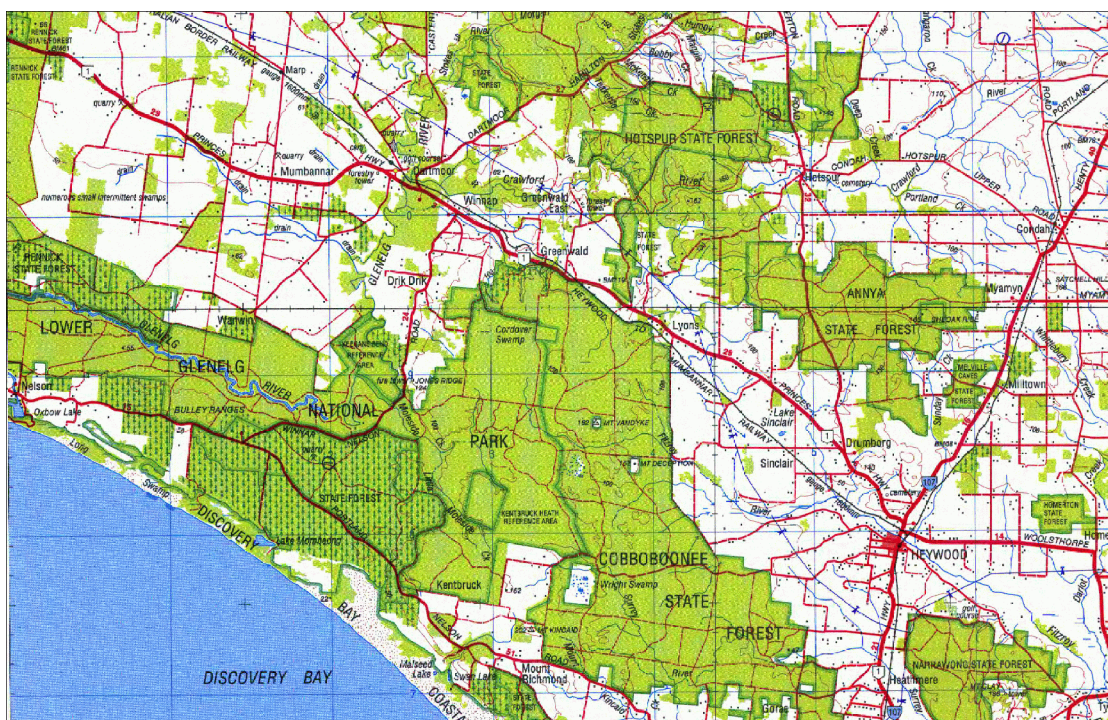
*Final Operations Report  
on the*

***2003 Nelson 3D Seismic Survey***

*for*

***TRACE ENERGY SERVICES Pty Ltd  
and  
ESSENTIAL PETROLEUM RESOURCES  
LIMITED***

***April/May 2003***



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# 1

## ***INTRODUCTION***

The following report covers the **2003 Nelson 3D Seismic Survey**, performed by **Dynamic Satellite Surveys Pty Ltd** (DSS) whilst contracted to **Trace Energy Services Pty Ltd** for **Essential Petroleum Resources Limited**.

The survey operations were conducted between the 22<sup>nd</sup> of April and the 29<sup>th</sup> of May, 2003.

The survey operation covered an area around and to the east of the township of Nelson in far western Victoria. All lines were in PEP 151 and were concentrated in and around the Lower Glenelg National Park. Three lines were in a separate area further east of the main block and known as the Kentbruck area. There were 37 seismic lines in total, all chained at 25m station intervals and these are summarised below:

### **KENTBRUCK**

Located 27km east of Nelson, Victoria.

Line	Start of Line	End of Line	Distance (kms)
146	101	476	9.375
148	101	746	16.125
167	089	284	4.875
			<b>30.375</b>

Main survey area.

Line	Start of Line	End of Line	Distance (kms)
101	101	650	13.725
102	085	986	22.525
103	086	190	2.600
104	094	863	19.225
105	081	450	9.225
106	130	345	5.375
107	096	168	1.800
108	115	994	21.975
109	107	341	5.850
110	112	948	20.900
111	113	389	6.900
112	099	394	7.375
113	060	377	7.925
114	101	321	5.500
115	101	296	4.875
116	101	405	7.600
117	101	259	3.950
118	111	217	2.650
119	103	148	1.125
120	101	300	4.975
121	101	346	6.125
122	105	416	7.775
123	145	927	19.550
124	113	488	9.375
125	101	298	4.925
127	101	167	1.650
129	085	427	8.550
131	101	365	6.600
133	058	215	3.925
135	101	538	10.925
137	084	321	5.925
139	068	699	15.775
201	117	130	0.325
213	101	260	3.975
		<b>TOTAL</b>	<b>281.475 kms</b>



## 2

## ***INSTRUMENTATION AND PERSONNEL***

### ***2.1 Personnel and Logistics***

DSS personnel involved in the survey were as follows.

<b>Name</b>	<b>Qualification</b>	<b>Duties</b>
Ron Weekes	B. Applied Science (Surveying) W.A.I.T.	Supervising surveyor, data processing, report.
Mike Borthwick	Certificate in Hydrographic Surveying (RNZN)	Chaining, surveying.
Mark Lefebvre	B. Applied Science (Surveying), R.M.I.T.	Chaining, surveying.
Tony Morcom	B. Geomatics (Surveying), University of Melbourne	Chaining, surveying.
Denis Williams	B. App. Sc. (Surveying) B. Information Technology Q. U. T.	Chaining, auditing, training.
Rob Heyer	DSS Operations Manager	Chaining, logistics.
Gregory Birrell		Chaining.
Renae Turner		Chaining.

Personnel and equipment logistics were supported by the DSS Yeppoon office. Two rental vehicles were driven to Nelson from Melbourne and the DSS Hilux was driven to Nelson from Yeppoon.

Survey operations were based at the Sun Valley Eco Farm, 2.5km east of Nelson on the Nelson - Portland Road. This provided accommodation and ample vehicle/equipment storage space. The farm was also the location of the DSS survey site office.

No time was lost due to wet weather although a few days were damp.



## 2.2 *Equipment*

Equipment provided by DSS and used on this project.

	Description	Qty
<b><i>Vehicles</i></b>	Toyota Hilux - DSS	1
	Toyota Landcruiser Trayback - Hired	2
<b><i>GPS receivers</i></b>	NovAtel RT20 c/w VHF Telemetry	4
	NovAtel 2151 c/w VHF Telemetry	1
	Garmin 72 hand held GPS receiver	1
<b><i>Computers</i></b>	Dell Inspiron 5000	2
	GRiD 386 Field PCs	6
<b><i>Software</i></b>	GravNav / GravNet GPS post-processing - Waypoint Consultancy	1
	Nav98 field software - DSS	Ver4.0
	MIB2001 for Windows - DSS	Ver4.0.3
	Translt 2000 - DSS	Ver2.04
<b><i>Printer</i></b>	Sharp AL-840 printer/copier	1
<b><i>Survey Instruments</i></b>	Rapid Elevation Meter - DSS	2
	Geodimeter 600 Total Station.	1
<b><i>Miscellaneous</i></b>	Necessary standard surveying equipment	
	Sundry office and transport equipment	
	Field and Office Consumables	



# 3

## ***SURVEY REFERENCE SYSTEMS***

### ***3.1 Geodetic Datum***

The Geocentric Datum of Australia 1994 (GDA94) is based on the Geodetic Reference System 1980 (GRS80) model described by the following parameters.

<i>Datum:</i>	GDA94 (Geocentric Datum of Australia 1994)
<i>Spheroid:</i>	GRS 1980
<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 (MGA 94). Parameters for this projection are as follows.

<i>Projection:</i>	Universal Transverse Mercator (MGA Zone 54)
<i>Latitude of Origin:</i>	0°
<i>Central Meridian (CM):</i>	141° 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 WGS 84 (World Geodetic System) 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 WGS84 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

$$AHD = (WGS84)H_t - (Geoid / Ellipsoid Separation)$$

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 obtained using the GrafNet Version 6.03 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 datum point for this survey was PM42 (C520-8) which is a zero order horizontal and third order vertical government control mark located near Nelson. This mark has the following coordinates.

Station	Easting (MGA)	Northing (MGA)	Height (AHD)	Comments
PM 42 C520-8	501689.441	5787396.971	28.731	0 hor / 3 <sup>rd</sup> vert

Eight new survey points were installed for the job and these were used at different times as base reference stations for the real-time GPS survey. These new points were all linked in a closed network observed by static GPS methods.

The GPS recordings were post-processed with GRAFNET<sup>2</sup> and a least squares adjustment for best fit was applied.

A check point in the network was another Victorian government survey control mark, Glenelg PM50 (C520-3). The results of this tie gave a high degree of reliability to the network and are quoted below. PM50 is a 3<sup>rd</sup> order horizontal, 3<sup>rd</sup> order vertical control mark.

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<sup>2</sup> GRAFNET Version 6.03 by Waypoint Consulting Inc, Canada

Station	Easting (MGA)	Northing(MGA)	Height (AHD)	Comments
PM 50	500998.081	5788691.600	15.069	SMES
C520-3	500998.132	5788691.584	15.061	03021
	0.051	-0.016	-0.008	Misclose

Two other survey control marks from earlier surveys done by DSS were observed during the course of this survey. These points were at the east and west ends of the job and gave a good quality control check for the control network.

Station	Easting (MGA)	Northing(MGA)	Height (AHD)	Comments
DSS 97-12	518104.21	5782537.93	60.66	DSS 1997
BAS8	518104.05	5782537.71	60.54	03021
	-0.16	-0.22	-0.12	Misclose

Station	Easting (MGA)	Northing(MGA)	Height (AHD)	Comments
DSS 01-38	497015.32	5789942.39	12.20	DSS 2001
PM718	497015.96	5789943.20	12.27	03021
	0.64	0.81	0.07	Misclose

Some of the discrepancy in these positions must be attributable to the transformation of coordinates from AMG84 to GDA/MGA. A better agreement would be expected as in the tie to PM50 if the transformation used a locally adjusted transformation. The transformation AMG-MGA varies slightly across the country and the transformation applied here for a check has used a general set of values.

The agreement in elevation is very acceptable for seismic control.

A control network diagram showing all points in the control survey can be found in **Appendix B - Control Network Diagram**. This has been taken from the Grafnet software package and also shows all GPS static baselines observed.

All ties and miscloses can be seen in **Appendix A - Control Survey and Ties**.



5

## ***MONUMENTATION***

All lines were marked at a 25 metre station interval.

In most areas the lines were marked with alternating painted wooden pegs and pinflags. In these areas each peg was fully numbered with line number and station number.

In areas where disturbance from farm animals was likely, every point was marked with a numbered wooden peg and a spray mark of pink paint on the ground to facilitate recovery.

Two lines had long sections of hand cleared foot track and here the stations were marked with pinflags only. The station number was written on each pinflag

Survey control marks were placed at desirable locations for base station operation. Control marks consisted of a 1650mm steel star picket driven to refusal (approximately 0.5 metre in depth), and tagged with an aluminium plate stating the DSS job number and station name.



# 6

## ***METHOD OF SURVEY***

### **6.1      *Line Ranging***

Line ranging was not part of the job specification for DSS on this project. The reason given was that most lines were on existing roads and tracks and therefore line ranging would not be needed. This was true for the majority of the job.

Some lines in the south-western areas were in open farm paddocks and line scouting/ranging was done ahead of survey by the line clearing/fencing crew. In more normal seasons the line of slashed vegetation would be quite obvious and easy to follow but with the current near drought conditions some paddocks have very little grass height. Although all lines had been driven by the slasher and the fencing vehicle there were places where the line could not be seen. This made it very difficult at times for the survey teams to follow the proposed line and significant time was lost in scouting ahead to ascertain correct line.

In future some more identifiable line marking such as flagging or spray painting may be necessary.

A small amount of line ranging with a hand held GPS unit was done on a couple of lines at river crossings.



## **6.2      *Surveying and Chaining***

In areas of open or low vegetation and clear overhead visibility the lines were surveyed using DSS' RT20 real-time kinematic surveying technique.

RT20 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 a remote rover.

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

NovAtel real-time kinematic methods can achieve accuracies of better than  $\pm 0.3\text{m}$  in position and elevation, depending on base line length. The expected precision for locating pegged positions is better than 0.3 metre.

Initialisation of the RT20 rover GPS usually takes as little as 2-3 minutes, although this is greatly dependant on satellite geometry, availability, base line length and denseness/height of trees.

A lot of areas could not be surveyed using RT20 techniques and a variety of survey methods were employed. The National Park areas were generally heavily wooded with native vegetation and there were sections that were inaccessible by vehicle. The remainder of the project areas were in plantation pine forests with trees in blocks of varying ages/heights.

A feature of all GPS data that was greatly utilised on this job was the reliable horizontal accuracy most of the time but vertical accuracy only in good observing conditions.

Most of the forested areas and National Park were conventionally chained using a 100m chain marked at 25m intervals. RT20 GPS was used to check the chaining (ie. ensure no station number errors were made and the distance along the line was correct) and to observe horizontal coordinates where necessary. The forests usually had places at useable intervals sufficiently clear to allow an accurate height reading to be obtained which could be used later for elevation control.

In pine forests, the tracks were usually very straight and allowed horizontal position fixing at extended locations and the intermediate points to be interpolated. The elevations had to be observe separately using the REM (Rapid Elevation Meter).

### **6.3      *Rapid Elevation Meter (REM)***

The REM was developed by DSS and consists of a Paro Scientific 1016a quartz crystal digital barometer linked to a field computer. It is used to observe elevations and does not require line-of-sight. It is accurate to 0.3m or better and is suitable for use in a vehicle or in a backpack powered by a motorcycle style 12 volt battery.

In the hand cleared sections where overhead vegetation prevented sufficiently accurate real-time readings or it would be too slow to achieve useable accuracy, static observations were recorded. This involved setting up the GPS base receiver to log phase data continuously and setting up another GPS unit to log phase data at the point to be surveyed.

Later, this data was downloaded to the office computer and post-processed to obtain an accurate elevation and horizontal position. The points surveyed using the static method were then used as control points for the REM and compass observations. All intermediate points on these sections were hand chained.

### **6.4      *GPS Processing and Quality Control***

When using RT20 and REM, all data is recorded internally in GRiD palmtop data loggers and downloaded to the office computer each evening.

The quality of the satellite data is monitored by examining 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 for three dimensional recording are generally better than 0.2 metres.

Any recording of positions when the standard deviation values are in excess of 0.3m was highlighted to the surveyor at the time of recording, and the GPS could be re-initialised until a more accurate solution is calculated.

For two dimensional readings (horizontal only) the standard deviation on the height is ignored and the values on east and north are as low as practical after receiving a few full radio correction signals.

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.

Static observations were post-processed using Grafnet software. Data was processed using a combination of “float” and “quick static” solutions. Satellite configuration and data quality was monitored during the field observations and processing. This software can output MGA94 coordinates and AHD elevations.

In office processing the coordinates were checked by determining point to point direction and distance.

Profile plots were examined to identify any height anomalies.

Any positions at variance with the line requirements were flagged for further investigation and re-recorded if necessary.

**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 MGA projection (Zone 54) on the GDA94 reference spheroid. All elevations were on the Australian Height Datum (AHD71).

Files produced were:

XXX.uka	Line data in UKOOA format.
XXX.int	Line data as initially output by DSS software
intersec.crd	Line intersection coordinates
upholes.crd	Uphole coordinates
ties.crd	Ties coordinates

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

A full set of line trace diagrams were produced and passed to Trace Energy Services before survey demobilisation.

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.

With close daily contact between DSS personnel and with the Trace Energy crew toolbox any topics of safety awareness and concern were discussed regularly.

Each vehicle was fitted with a UHF radio, shovel, fire extinguisher, first-aid kit, vehicle recovery equipment, emergency response plan and weekly vehicle maintenance check lists.

Any safety hazards that were noticed or encountered were raised at each mornings survey toolbox meeting.

On this project the only hazard that was a concern was the vehicle traffic on the main roads. There was a high daily volume of large trucks and great care was necessary when survey of the line crossed or ran along the road.

Most of the lines along the roads were able to be offset away from the carriageway in a corridor against the tree line. Some sections of road did not have a sufficiently large shoulder and speed restriction and “work in progress” signs had to be erected for survey to continue safely. All safety procedures were followed with rotating orange beacons, bright safety vests worn and road signage displayed.

No incidents were reported and no lost-time injuries occurred on the project.



## 9

## **CHRONOLOGICAL SUMMARY**

<b>DATE</b>	<b>OPERATIONS</b>
22 <sup>nd</sup> April	Ron Weekes mobilised from Sydney to Melbourne. Picked up rental vehicle and drove to Nelson.
23 <sup>rd</sup> April	Ron Weekes meet with Andy Brett, Ray Willox and Roger Blake. Discuss job, look over plans. Drive several areas of interest/concern.
24 <sup>th</sup> April	Office work on total line lengths. Prepare line files. Reconnoitre lines north of river.
25 <sup>th</sup> April	Meet Head Ranger of Lower Glenelg National Park - discuss proposed work. Locate existing survey control to be used for establishing new control points.
26 <sup>th</sup> April	Collect survey pegs from supply in Penola. Commence static GPS control survey. Establish four new control points east of Nelson.
27 <sup>th</sup> April	Complete control survey loop. Commenced chain and survey of line 46 (later 146) in Kentbruck area. Line 146 0.125km
28 <sup>th</sup> April	Chain 2 kilometres of line but REM required because of vegetation cover preventing 3D real-time survey. Rob Heyer arrived from Yeppoon with survey equipment.

<b>DATE</b>	<b>OPERATIONS</b>
29 <sup>th</sup> April	Mike Borthwick and Tony Morcom mobilised from Yeppoon. Line 146 and 167 surveyed to limits of private property boundaries. No access beyond due to locked gates and stock restrictions. Lines 146 and 167. 11.775km
30 <sup>th</sup> April	Chain and survey of first lines in main area started. Possible underground pipeline checked with Ray Willox and cleared. Brief showers during day. Lines 110 and 122. 15.300km
1 <sup>st</sup> May	Two chaining crews working. Approx 12.5km of line chained but requiring REM survey for elevation. Lines 108 and 137. 4.925km.
2 <sup>nd</sup> May	Mark Lefebvre mobilised to site from Melbourne. Ron Weekes scouted lines north of the river checking for slashing or clearing requirements. Tony Morcom had a full day of REM survey. Chainman Greg Birrell commenced work. Lines 108, 123, 137 and 139. 18.825km
3 <sup>rd</sup> May	Two chaining crews operating all day. One REM surveyor all day. Lines 116, 129, 131 and 133. 10.900km
4 <sup>th</sup> May	Two chaining crews and one REM all day. All crews working on north side of river. Lines 116, 129, 131, 135 and 139 12.675km
5 <sup>th</sup> May	Two chaining crews and one REM all day. Lines 120, 122 and 139 - north side of river. 14.325km.
6 <sup>th</sup> May	Two chaining crews and one REM all day. Chaining crews finish day back on south side of river. Lines 108, 118, 120 and 139. 17.100km

<b>DATE</b>	<b>OPERATIONS</b>
7 <sup>st</sup> May	One chaining crew, one GPS surveyor and one REM surveyor. Rob Heyer demobilised from site.in morning. Survey of three new lines in Kentbruck completed and the full extent of lines 146 and 167 completed. Lines 112, 146, 148, 167 and 171. 19.125km
8 <sup>th</sup> May	One chaining crew and two crews doing a combination of GPS and REM surveys. Some problems with satellite signals in the afternoon but DSS gear all checks ok. Lines 108, 112, 114, 129 and 169. 17.050km
9 <sup>th</sup> May	One chaining crew all day and one for half a day. Two GPS surveyors installing and recording new control late in the afternoon. Lines 106, 110, 114 and 125. 14.650km
10 <sup>th</sup> May	One chaining crew all day and one for half a day. Work commenced on long hand cleared section of line 135. One surveyor scouted a river crossing for hand clearing. Trace crew all on site this morning. Lines 110 and 123. 11.650km
11 <sup>th</sup> May	One chaining crew all day and one for half a day. One REM surveyor for half a day. Mike Borthwick out on break at 14:00. Lines 106, 113 and 135. 6.575km
12 <sup>th</sup> May	One chaining crew all day. One REM surveyor all day on hand cleared line using a backpack. Lines 133 and 135. 4.025km
13 <sup>th</sup> May	One chaining crew all day. Chainman returned to town at 10:00 due to illness. Denis Williams DSS Survey Manager here for training of field crews and internal audit. Does chainmans job for the rest of the day. One REM surveyor (backpack) for 3 hours on line 129 then GPS surveyor for rest of the day. Lines 111, 113, 115, 129 and 139. 12.250km



DATE	OPERATIONS
14 <sup>th</sup> May	<p>One chaining crew for 3 hours then GPS surveyor for remainder of day. Denis Williams helps out as chainman in the morning. One GPS surveyor all day. 14:30 Ray Willox informed surveyors of threat to pegs on lines 129, 131 and 137 by pine harvesting operations. Pegs moved to opposite side of track 15:00 - 16:00. Lines 101, 102, 110 and 115. 15.500km</p>
15 <sup>th</sup> May	<p>Two survey crews doing mix of GPS and chaining all day. Denis Williams chainman for the morning. He then demobilised from site at 15:00. Ron Weekes out to Kentbruck to mark three uphole locations before crew depeg the lines. New chainman commenced work at 7:00. Lines 107, 108, 111 and 113. 4.925km</p>
16 <sup>th</sup> May	<p>Two GPS surveyors for half a day. One REM surveyor half a day, one chaining crew half a day. Chainman left field at 13:00 for medical reasons. Ron Weekes attended Cross Cultural Seminar in Portland for Aboriginal Heritage clearance on site. Lines 101, 103, 108 and 115. 9.925km</p>
17 <sup>th</sup> May	<p>One GPS surveyor all day One REM surveyor all day. Lines 101, 109, 111, 113 and 121. 13.15km</p>
18 <sup>th</sup> May	<p>Two GPS surveyors all day. Rain showers during afternoon. Lines 101 and 105. 8.225km</p>
19 <sup>th</sup> May	<p>Two GPS surveyors all day. Rain showers during the day. Ron Weekes inspected and marked location of heritage site on line 104. Extent is stations 529 to 548 - a total of 475m. Ron Weekes marked ten proposed uphole locations ready for drillers tomorrow. Lines 102, 109 and 117. 16.325km</p>

<b>DATE</b>	<b>OPERATIONS</b>
20 <sup>th</sup> May	One GPS surveyor all day. The other surveyor did REM for 3.5 hours and GPS for 7 hours. Showers during the day. Chained line awaiting REM building up because of windy weather. Lines 109 and 119. 1.850km
21 <sup>st</sup> May	Two GPS surveyors all day. One working with backpack on short line sections. No REM today due to windy weather. Ron Weekes marked eight proposed uphole locations. Line 121. 2.050km
22 <sup>nd</sup> May	Two surveyors doing REM all day. Lines 102, 104, 105, 109 and 129. 24.475km
23 <sup>rd</sup> May	One chaining crew all day with new chainman. One REM surveyor for half a day. Tony Morcom left site at 13:00 for weekend break. Lines 108 and 109. 5.625km
24 <sup>th</sup> May	Priority switch to last three lines north of the river. Chaining crew all day. REM surveyor for half a day. Lines 129 and 135. 4.900km.
25 <sup>th</sup> May	One chaining crew all day. Work commenced on hand cut line 213. One REM surveyor for half a day. Lines 121 and 127. 4.525km.
26 <sup>th</sup> May	One chaining crew all day on hand cut line 213. One GPS surveyor for half a day and one REM surveyor for half a day. Tony Morcom back at work 7:00 Lines 102 and 105. 3.250km.
27 <sup>th</sup> May	REM surveyor for most of day completing line 213. One chaining crew all day completing various lines. One km section chained and surveyed past Henke #1. All field survey of lines completed. Lines 102, 105, 139, 201 and 213. 4.575km

<b>DATE</b>	<b>OPERATIONS</b>
28 <sup>th</sup> May	Tony Morcom demobilised from site at 10:00 in DSS Hilux. Mark Lefebvre in office drawing up outstanding chaining diagrams. Ron Weekes in office finalising data and commencing report.
29 <sup>th</sup> May	Mark Lefebvre resurveyed stations 112 to 129 on line 110 on request for relocation by Sam Coniglio. Mark demobilised at 15:30. Ron Weekes continued work on the final report.
30 <sup>th</sup> May	Ron Weekes completed the draft of the final report.
31 <sup>st</sup> May	Ron Weekes demobilised from site in the morning.
June	Final Operations Report completed.



# 10

## ***OPERATIONAL ASPECTS***

Approximately one third of the total area was open and allowed full three dimensional GPS survey to be done (RT20). The rest of the area was either native forest in National Park or pine forest plantation of varying ages and heights.

The areas of young pines were normally good for GPS but often the lines had tall pines bordering one side and this often restricted the satellite signal. The majority of the job was surveyed using a combination of GPS and chaining with elevations by REM.

The weather was very favourable for surveying considering the season and only minor disruption occurred to work because of rain. Wind delayed the use of the REM several times as the barometric system works well in stable atmospheric conditions. The presence of slow moving high pressure systems was very favourable for accurate REM work.

The accommodation and office arrangement for the DSS team was excellent with plenty of weather proof space for vehicles, equipment and consumables. The fact that the survey office was 2.5km out of town was not an inconvenience for anyone as communication between survey, the crew, and the client representative was very easy and regular.

Ray Willox and his team provided good line clearing and permitting services and no problems of significance occurred.

The survey of lines progressed very well in part due to DSS providing extra personnel at the start to allow the build up of a good lead on the crew. DSS always had sufficient vehicles and equipment for the task and the support from the Yeppoon office ensured the work progressed smoothly. There was only one instance of the seismic crew being close to needing a line before the pegs were in the ground and as usual this was due to a late forced change of plan. No delays were caused to any part of the project.

All services for the job were available at Mt. Gambier, 35km away.

The job was centred around Nelson and so travel times were quite minimal for a project of this size. The main issue for travel was the only two crossings of the Glenelg River being at Nelson and Dartmoor.

From an operational perspective the only major issue of concern for survey crews was the high volume of fast truck traffic on the main roads and occasionally in the pine plantations. Some waste pine log burning off was in progress in the northern part of the job but this caused little interference to survey.

Cultural heritage was an issue on one section of one line and this had already been inspected by Essential Petroleum and local indigenous representatives. The marking of this section, line 104 stn 529 - 548, was accomplished very quickly with no disruption to survey.

All upholes were marked and some changed by Ron Weekes and so no production time was lost by the regular field crews.



# 11

## ***CONCLUSIONS AND RECOMMENDATIONS***

For DSS, this project has gone extremely well and this has been due to a combination of good effort and good fortune. Good effort by all participants in the project, not just DSS, has meant a good rapport between all working groups which avoided problems being major issues.

As stated earlier, Ray Willox and his team provided good line clearing and permitting services and no problems of significance occurred. The hand clearing of lines through the national park and access to river crossings were well done within the restrictions allowable. Regeneration of the vegetation should be swift and little evidence of seismic passing through will be left behind.

For survey, the only problem was the open paddocks where the slasher passing left no path to follow because of the very short grass. This then caused lost time with the surveyor having to scout ahead to find the correct line before restarting chaining and survey. Some means to prevent this should be discussed before future projects.

The very favourable weather for this season was a bonus to all field crews and a good team effort meant a good result. The combination of survey techniques employed by DSS allowed good production rates. Better than expected GPS coverage in the native forests was a definite plus.

The reasons for the better than normal coverage are unclear but is suspected that the dry weather has reduced the moisture content of the tree foliage and allowed a better signal penetration. The tall pines were still a problem with high signal loss unlike the native forest.

Survey control was found in a local zero order horizontal and third order vertical station. PM42 near the main beach was perfectly placed to be used as a base station and to provide the datum point of the survey. The project was observed in the GDA/MGA and AHD datums.

There were no safety incidents on the project.

*Ron Weekes*



# 12

## ***APPENDICES***



## ***Control Survey and Ties***

**Coordinates are MGA94 Zone 54, CM 141°**  
**Elevations are AHD, using the AusGeoid98 N Value Model**

**SURVEY DATUM:**

Station	Easting (MGA)	Northing (MGA)	Height (AHD)	Comments
PM 42 C520-8	501689.441	5787396.971	28.731	0 hor / 3 <sup>rd</sup> vert

**BASE STATIONS:**

Station	Easting (MGA)	Northing(MGA)	Height (AHD)	Comments
DON1	497064.864	5791747.490	32.175	Border road
NORTH	501157.183	5793539.052	33.756	North Nelson Rd
PARK1	511327.661	5788985.563	70.062	Off line 108
PARK2	528059.001	5779153.209	143.746	Off line 146
PINE1	507515.065	5787879.985	57.071	Johnsons Rd
PINE2	516472.026	5786569.607	38.881	Airstrip Rd
PINE3	500933.843	5796501.176	51.118	Behind deer farm

**TIES:**

Station	Easting (MGA)	Northing(MGA)	Height (AHD)	Comments
PM 50	500998.081	5788691.600	15.069	SMES
C520-3	500998.132	5788691.584	15.061	03021
	0.051	-0.016	-0.008	Misclose

Ties continued

Station	Easting (MGA)	Northing(MGA)	Height (AHD)	Comments
97-12	518104.21	5782537.93	60.66	DSS 1997
BAS8	518104.05	5782537.71	60.54	03021
	-0.16	-0.22	-0.12	Misclose

Station	Easting (MGA)	Northing(MGA)	Height (AHD)	Comments
01-38	497015.32	5789942.39	12.20	DSS 2001
PM718	497015.96	5789943.20	12.27	03021 RT20
	0.64	0.81	0.07	Misclose

Station	Easting (MGA)	Northing(MGA)	Height (AHD)	Comments
PM 39	500767.574	5790269.736	9.464	SMES
C519-15	500767.44	5790269.42	9.14	03021 RT20
	-0.134	-0.316	-0.324	Misclose

## ***Control Network Diagram***

***Final Line Summary***

## Final Line Summary

Line	BOL	EOL	No. of Stns	Line length (km)	No. of Stns programmed 02/05/03	Non-existent Stns and reason
101	101101	101650	549	13.725	465	275-279 line return
102	102085	102986	901	22.525	876	091-096 river
103	103086	103190	104	2.6	115	
104	104094	104863	769	19.225	763	
105	105081	105450	369	9.225	275	205-209 river
106	106130	106345	215	5.375	222	
107	107096	107168	72	1.8	81	
108	108115	108994	879	21.975	818	
109	109107	109341	234	5.85	227	291-295 river
110	110112	110948	836	20.9	771	259-263 bridge
111	111113	111389	276	6.9	275	
112	112099	112394	295	7.375	294	
113	113060	113377	317	7.925	281	No stn # gap for line return
114	114101	114321	220	5.5	221	
115	115101	115296	195	4.875	150	
116	116101	116405	304	7.6	305	
117	117101	117259	158	3.95	103	
118	118111	118217	106	2.65	117	
119	119103	119148	45	1.125	48	
120	120101	120300	199	4.975	180	
121	121101	121346	245	6.125	229	265-268 river
122	122105	122416	311	7.775	316	No stn # gap for river
123	123145	123927	782	19.55	716	
124	124113	124488	375	9.375	388	
125	125101	125298	197	4.925	153	
127	127101	127167	66	1.65	65	
129	129085	129427	342	8.55	328	331-335 river
131	131101	131365	264	6.6	291	
133	133058	133215	157	3.925	151	
135	135101	135538	437	10.925	369	440-444 river
137	137084	137321	237	5.925	221	
139	139068	139699	631	15.775	597	371-381 line return, 647- 654 river
146	146101	146476	375	9.375		

Line	BOL	EOL	No. of Stns	Line length (km)	No. of Stns programmed 02/05/03	Non-existent Stns and reason
167	167089	167284	195	4.875		
201	201117	201130	13	0.325		
213	213101	213260	159	3.975		
Total			12302	311.85	Total dead stns = 59	
Kentbruck Section					Final Station Total = 12243	
Stns	Kms					
1215	30.375					

## ***Upholes Listing***



## Upholes Listing

**Coordinates are MGA94 Zone 54, CM 141°**

**Elevations are AHD, using the AusGeoid98 N Value Model**

Number	Line/Station	Easting	Northing	Height	Comments
UH01	146433	530612.2	5777173.6	156.90	
UH02	167125	525897.1	5776057.8	127.64	
UH03	146137	525248.8	5780451.5	51.31	
UH04	124442	521038.2	5786009.0	30.80	
UH05	124246	516431.9	5786734.0	33.33	EOL 110
UH06	124130	513884.2	5788100.3	31.11	EOL 137
UH07	123300	513844.0	5783997.7	39.32	EOL 116
UH08	135190	511104.1	5785157.8	36.91	X LINE 116
UH09	125146	506972.7	5786203.5	14.45	X LINE 123
UH10	108651	507362.3	5789952.0	49.86	X LINE 125
UH11	113172	503693.5	5787751.3	24.00	X LINE 115
UH12	113344	502357.7	5790061.2	28.85	
UH13	103109	498265.6	5788976.4	5.05	X LINE 101
UH14	101401	497041.2	5791452.5	15.33	
UH15	102311	499534.7	5796203.1	23.05	X LINE 105
UH16	105362	499571.0	5798523.2	34.56	
UH17	117215	504239.0	5796686.8	25.76	Fahley #2
UH18	121346	506813.8	5795315.8	20.76	X LINE 102
UH19	102781	510195.0	5793391.8	25.85	X LINE 129
UH20	139448+12	515369.6	5793814.0	31.50	
UH21	139336	516800.1	5793704.4	34.85	Henke #1
UH22	109340	501435.4	5795776.4	21.40	X LINE 102
UH23	102870	512348.2	5792853.6	24.70	

***Line Intersection Listing***

## Line Intersection Listing

**Coordinates are MGA94 Zone 54, CM 141°**

**Elevations are AHD, using the AusGeoid98 N Value Model**

Not all line intersections were clear as many lines started/ended at a line rather than crossing it.

<b>Line/Station</b>	<b>X Line/Station</b>	<b>Easting</b>	<b>Northing</b>	<b>Height</b>
146 /146433+07	171 /171167+24	530618.13	5777170.90	156.92
146 /146196+08	169 /169290+17	526631.12	5780527.26	108.06
148 /148231+22	167 /167139+20	526018.78	5776382.11	127.17
110 /110853+03	123 /123219+09	514270.95	5785931.33	38.72
110 /110789+08	137 /137241+10	512775.23	5786455.51	29.42
123 /123443+11	137 /137086+18	512128.75	5782655.33	17.28
131 /131153+25	116 /116153+05	509184.80	5785922.83	13.80
116 /116213+06	133 /133152+06	510120.19	5785475.25	27.24
116 /116271+05	135 /135178+18	511062.67	5784879.11	28.58
116 /116327+21	137 /137167+17	512441.57	5784650.39	39.62
125 /125145+18	123 /123728+21	506971.79	5786196.03	14.39
108 /108650+19	125 /125297+15	507356.28	5789952.80	49.48
110 /110729+10	135 /135264+03	511388.60	5786985.10	44.52
110 /110593+21	129 /129170+07	508280.02	5787730.25	49.49
110 /110545+09	125 /125217+09	507115.73	5787961.51	38.17
123 /123683+18	129 /129086+12	507953.87	5785667.26	6.89
108 /108816+02	131 /131288+25	510110.70	5788731.91	47.10
110 /110853+03	123 /123219+09	514270.95	5785931.33	38.72
108 /108916+20	135 /135366+14	512308.13	5789037.37	30.64
114 /114280+22	135 /135398+05	512352.07	5789781.01	28.22
108 /108698+18	129 /129252+24	508537.57	5789778.93	29.31
113 /113171+14	115 /115147+04	503704.86	5787751.22	24.85
110 /110339+09	113 /113291+08	502211.16	5788754.98	6.40
110 /110406+06	115 /115188+17	503848.04	5788593.27	29.02
110 /110303+18	111 /111292+12	501359.30	5788581.84	4.57
108 /108431+03	113 /113350+14	502363.29	5790223.67	18.76
102 /102293+06	105 /105252+03	499095.31	5796262.46	26.63
102 /102391+06	109 /109340+06	501432.98	5795782.36	21.16
108 /108364+18	109 /109107+20	500749.93	5790254.65	8.73
107 /107132+14	110 /110212+10	499346.50	5789419.19	21.60
101 /101159+01	107 /107101+10	499558.79	5788750.22	2.80
101 /101213+17	103 /103109+05	498266.39	5788980.97	5.34
101 /101338+16	110 /110114+09	497066.33	5789906.65	11.95
101 /101648+14	102 /102177+03	497102.90	5796333.80	22.89
102 /102619+08	121 /121345+13	506810.70	5795304.73	21.18
103 /103145+21	110 /110167+09	498365.44	5789885.57	18.92

## ***Line Trace Diagrams***

## ***Photographs***



Cultural Heritage Line Checking - Line 104  
Lower Glenelg National Park



On Line 105 - Glenelg River



Line 201 - Section of hand carry



PM 42 - Primary Station