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NEGPETS HOLDINGS LTD. SEISMIC & GPS SURVEYS
104 WILLAMETTE DRW. S.E., CALGARY, ALBERTA T2J 2A2 (403)271 4434

**FORT NORMAN, NWT
GPS CONTROL SURVEY**

CLIENT COPY

FORT NORMAN GPS CONTROL SURVEY

INTRODUCTION

FROM FEBRUARY 6 - 13, 1996, A GPS CONTROL SURVEY WAS PERFORMED BY ROBERT TOBIN OF N.H.L. SURVEYS FOR RANGER OIL AND WESTERN GEOPHYSICAL BOTH OF CALGARY, ALBERTA. THE PRIMARY PURPOSE OF THE CONTROL SURVEY WAS TO PROVIDE COORDINATE AND ELEVATION VALUES FOR A SEISMIC SURVEY THAT WAS BEING PERFORMED IN THE AREA AND TO PROVIDE SOME PERMANENCE OF CONTROL IN THE EVENT THAT FUTURE EXPLORATION IN THAT AREA WAS TO BE CONSIDERED.

THE LOCATION OF THE SURVEY WAS APPROXIMATELY 35 KM'S SOUTH OF THE TOWN OF NORMAN WELLS AT THE NORTHERN BOUNDARY AND 30 KM'S SOUTH-WEST OF FORT NORMAN. PHYSICALLY THE VEGETATION WAS GENERALLY LIGHT TAMARA WITH PERIODIC HEAVY GROWTH, THE TERRAIN WAS FLAT WITH SOME UNDULATION AT THE EXTREMITIES OF THE PROGRAM.

DUE TO THE SIZE OF THE AREA, A HELICOPTER WAS USED FOR ALL SURVEY SESSIONS, THIS EXPEDITED MATTERS GREATLY.

PERSONNEL

ROBERT TOBIN : NHL PROJECT MANAGER.
LOU BOUTOT : NHL SURVEYOR.

FRANS BROUWER : WESTERN SURVEY SUPERVISOR.

EQUIPMENT

TRIMBLE 4000SSE	SN# 3412AO5557
TRIMBLE 4000SSE	SN# 3439AO7712
TRIMBLE 4000SSE	SN# 3451AO9099

TRIMBLE L1/L2 DUAL FREQUENCY ANTENNA	SN# 0220005864
TRIMBLE L1/L2 DUAL FREQUENCY ANTENNA	SN# 0220005967
TRIMBLE L1/L2 DUAL FREQUENCY ANTENNA	SN# 0220008905

AST 486/66 DX2 LAPTOP
HP320 DESKJET PRINTER

BERSTEN ALUMINUM CAPS W/ STEEL RODS.

TRIPODS, CABLES, BATTERIES AND RELATED FIELD EQUIPMENT.

TRIMBLE GPSeismic V.2.0 PROCESSING SOFTWARE.
GEOGRAPHIC CALCULATOR V.3.9 TRANSFORMATION SOFTWARE.
QUAD V.1.0 GEOID TRANSFORMATION SOFTWARE.
MS-OFFICE.
AUTOCAT Lt. V.3.5

CONTROL AND TIES

GEODETIC SURVEY POINT 74T-004 WAS USED AS THE FIXED CONTROL WITH A TIE SHOWN TO GEODETIC SURVEY POINT 74T-068. 74T-068 WAS PARTIALLY DESTROYED BUT THE STEEL ROD WITH CAP WAS STILL RELATIVELY INTACT. THIS WAS ENOUGH TO SHOW A TIE.

FIXED CONTROL :	GEODETIC 74T-004
TIE POINT :	GEODETIC 74T-068
BASELINE DISTANCE :	28,590.961 METERS
OCCUPATION CLOSURE :	74T-004 - GPS-001 - 74T068 - 74T-004
CLOSURE DISTANCE :	63,608.806
ERROR :	+ .0311 N / -.0183 E
PRECISION :	.5737 PPM.

SCHEDULE OF EVENTS

FEBRUARY 6, 1996 : - ARRIVE TO NORMAN WELLS FROM CALGARY.
- TALK TO FRANS BROUWER, THE WESTERN SURVEY SUPERVISOR TO DISCUSS PLAN OF ACTION FOR THE CONTROL SURVEY.
- CONTACT OTTAWA AND RECEIVE GEODETIC INFORMATION.
- SET-UP AND COLLECTION OF EPHEMERAL DATA

FEBRUARY 7, 1996 : - WITH USE OF HELICOPTER AND ACCCOMPANIED BY F.B. SCOUTED FOR SURVEY CONTROL, (FOUND : 74T-004, 74T-068 (PARTIALLY DESTROYED). NOT FOUND : TRIG. 'HALF').
- OBS. 1st. SESSION (74T-004 - 74T-068 - GPS-001).
- RETURN TO NORMAN WELLS BASE.
- POST-PROCESSING.

FEBRUARY 8, 1996 : - LOCATE AND BUILD GPS-010.
- HELICOPTER PROBLEMS, UNABLE TO CONTINUE.
- RETURN TO NORMAN WELLS BASE.

FEBRUARY 9, 1996 : - OBS. 2 SESSIONS ; (74T-068 - GPS-009 - GPS-010).
(74T-068 - GPS-006 - GPS-005).
- RETURN TO NORMAN WELLS BASE.
- POST-PROCESSING.

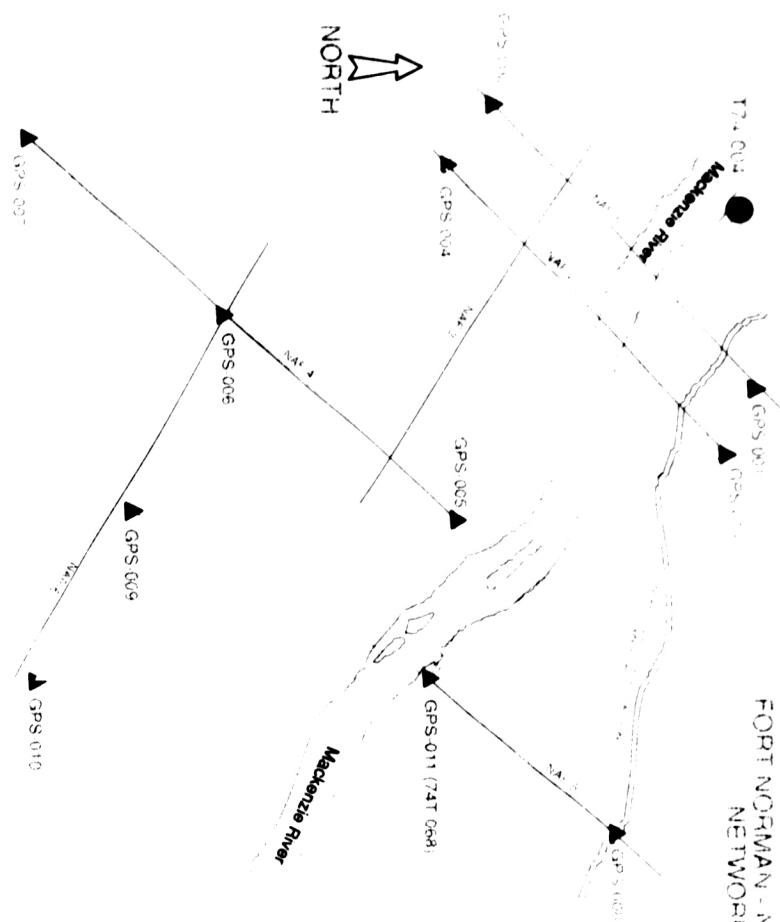
FEBRUARY 10, 1996 : - OBS. 3 SESSIONS ; (GPS-006 - GPS-007 - GPS-004).
(GPS-004 - GPS-002 - GPS-003).
(GPS-003 - GPS-008 - 74T-068).
- RETURN TO NORMAN WELLS BASE.
- POST-PROCESSING.

FEBRUARY 11, 1996 : - WRAP-UP AT FIELD LEVEL.
- RETURN TO CALGARY.

FEBRUARY 12, 1996 : - FINAL REPORT.

FEBRUARY 13, 1996 : - FINAL REPORT.

FORT NORMAN - NW TERRITORIES SURVEY
NETWORK AREA MAP



STATION REPORTS AND DESCRIPTIONS



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GPS STATION INFORMATION SHEET

STATION	74T-004		COORDINATE VALUES (NAD83)	
METHOD	STATIC GPS		GEOGRAPHIC VALUES	
DATE	FEB., 1996		ϕ : 65° 08' 15.25023"	
AGENCY	N.H.L. SURVEYS		λ : 126° 19' 44.22870"	
SURVEYOR	R. TOBIN		UTM COORDINATES	
MAP REF.	96-E		N :	
TOWN	FT. NORMAN		E :	
PROV. / TERR.	N.W.T.		ELEVATION (A M S L)	
LEGAL DESCRI.	N/A		053.937 Meters <small>NGS91 ELLIPSOIDAL MODEL</small>	
DESCRIPTION	MONUMENT IS EXISTING GOVERNMENT OF CANADA GEODETIC BM. # 74T-004.			
MONUMENT	(SHOW SKETCH OF MONUMENT CAP AND REFERENCES ON BACK OF SHEET)			
[] SET	[] RECOVERED	CONDITION	MONUMENT HGT.	
DISK SIZE	8.5 CM.	[] GOOD	ABOVE SURF. 2 CM.	[] DATUM PT.
DISK TYPE	ALUMINUM	[] DISTURBED	BELLOW SURF. _____	[] REF. MARKS
MON TYPE	CAP W/ROD	[] NOT USABLE	ABOVE TARG. _____	[] WITT. POSTS
DEPTH	60 CM.	[] NOT FOUND	BELLOW TARG. _____	[] MONUMENT
		[] DESTROYED	[] FLUSH W/Surface	IS DETECTABLE
ACCESS	(ACCESS AND LOCATION SKETCHES ON BACK)			
[] 2X4 [] 4X4	[] WINTER ACCESS	[] HIKE IN	CHECKLIST	
[X] BOAT	[] DRIVE TO MON.	[] HIKE IS DIFFICULT	[] PHOTO	
[X] HELICOPTER	[] LOCKED GATE	[] ACCESS FLAGGED	[] OBSTRUCTIONS	
[] ATV	[] CONTACT	[] NEED BACKPACK	[] DESCRIPTON	
[] SUMMER ACCESS	[] NO DRIVE IF WET	[] HIKING TIME :	[] REFERENCES	
			[] SKETCHES	
GPS	(SHOW OBSTRUCTIONS ON BACK)			
[X] CAN BE LEFT REMOTE	[] TRAFFIC CONCERN	[] STATION IS DIFFICULT TO FIND		
[] OBSTRUCTIONS	[] TRAFFIC CONES REQ'D	[X] RECON PRIOR TO OCCUPATION		
[] HIGH SETUP REQ'D	[] TRAFFIC SIGNS REQ'D	[] DAYS ONLY [] NIGHTS ONLY		
[X] AWKWARD SETUP	[] TRAFFIC CONT. REQ'D	[] DOGS [] RATE OWNER		
[] BIPOD REQ'D	[] LONG CABLE REQ'	[] RF INTERFERENCE		
		[] MORE THAN 1 PERSON REQ'D		
REMARKS				



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GPS STATION INFORMATION SHEET

STATION	GPS-001	FINAL COORDINATE VALUES (NAD27)	
METHOD : STATIC GPS DATE : FEB., 1996 AGENCY : N.H.L. SURVEYS SURVEYOR : R. TOBIN MAP REF. : 96-E TOWN : FT. NORMAN PROV. / TERR. : N.W.T. LEGAL DESCRI. : N/A	GEOGRAPHIC VALUES		
	ϕ : 65° 08' 02.433"		
	λ : 126° 04' 21.207"		
	UTM COORDINATES		
	N :		
	E :		
	ELEVATION (AMSL)		
271.534 Meters		*NGS91 ELLIPSOIDAL MODEL	
DESCRIPTION	ALUMINUM CAP LOCATED IN A HAND-CUT ON LINE NAF-1 AN THE N.W. EDGE OF A COULEE.		
MONUMENT (SHOW SKETCH OF MONUMENT CAP AND REFERENCES ON BACK OF SHEET)			
<input checked="" type="checkbox"/> SET <input type="checkbox"/> RECOVERED DISK SIZE <u>8.5 CM.</u> DISK TYPE <u>ALUMINUM</u> MON TYPE <u>CAP W/ROD</u> DEPTH <u>60 CM.</u>	CONDITION <input type="checkbox"/> GOOD <input type="checkbox"/> DISTURBED <input type="checkbox"/> NOT USABLE <input type="checkbox"/> NOT FOUND <input type="checkbox"/> DESTROYED	MONUMENT HGT. ABOVE SURF. <u>2 CM.</u> BELOW SURF. <u> </u> ABOVE TARG. <u> </u> BELOW TARG. <u> </u> <input type="checkbox"/> FLUSH W/Surface	<input type="checkbox"/> DATUM PT. <input checked="" type="checkbox"/> REF. MARKS <input type="checkbox"/> WITT. POSTS <input checked="" type="checkbox"/> MONUMENT <input type="checkbox"/> IS DETECTABLE
ACCESS	(ACCESS AND LOCATION SKETCHES ON BACK)		CHECKLIST
<input type="checkbox"/> 2X4 <input checked="" type="checkbox"/> 4X4 <input type="checkbox"/> BOAT <input checked="" type="checkbox"/> HELICOPTER <input type="checkbox"/> ATV <input type="checkbox"/> SUMMER ACCESS	<input type="checkbox"/> WINTER ACCESS <input type="checkbox"/> DRIVE TO MON. <input type="checkbox"/> LOCKED GATE <input type="checkbox"/> CONTACT <input type="checkbox"/> NO DRIVE IF WET	<input type="checkbox"/> HIKE IN <input type="checkbox"/> HIKE IS DIFFICULT <input type="checkbox"/> ACCESS FLAGGED <input type="checkbox"/> NEED BACKPACK <input type="checkbox"/> HIKING TIME :	<input type="checkbox"/> PHOTO <input type="checkbox"/> OBSTRUCTIONS <input checked="" type="checkbox"/> DESCRIPTON <input checked="" type="checkbox"/> REFERENCES <input checked="" type="checkbox"/> SKETCHES
GPS	(SHOW OBSTRUCTIONS ON BACK)		
<input checked="" type="checkbox"/> CAN BE LEFT REMOTE <input type="checkbox"/> OBSTRUCTIONS <input type="checkbox"/> HIGH SETUP REQ'D <input checked="" type="checkbox"/> AWKWARD SETUP <input type="checkbox"/> BIPOD REQ'D	<input type="checkbox"/> TRAFFIC CONCERN'S <input type="checkbox"/> TRAFFIC CONES REQ'D <input type="checkbox"/> TRAFFIC SIGNS REQ'D <input type="checkbox"/> TRAFFIC CONT. REQ'D <input type="checkbox"/> LONG CABLE REQ'	<input type="checkbox"/> STATION IS DIFFICULT TO FIND <input checked="" type="checkbox"/> RECON PRIOR TO OCCUPATION <input type="checkbox"/> DAYS ONLY <input type="checkbox"/> NIGHTS ONLY <input type="checkbox"/> DOGS <input type="checkbox"/> I RATE OWNER <input type="checkbox"/> RF INTERFERENCE <input type="checkbox"/> MORE THAN 1 PERSON REQ'D	
REMARKS			



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GPS STATION INFORMATION SHEET

STATION	GPS-002	FINAL COORDINATE VALUES (NAD27)	
METHOD :	STATIC GPS	GEOGRAPHIC VALUES	
DATE :	FEB., 1996	ϕ : 64° 59' 36.036"	
AGENCY :	N.H.L. SURVEYS	λ : 126° 29' 25.791"	
SURVEYOR :	R. TOBIN	UTM COORDINATES	
MAP REF. :	96-E	N :	
TOWN :	FT. NORMAN	E :	
PROV. / TERR. :	N.W.T.	ELEVATION (AMSL)	
LEGAL DESCRI. :	N/A	206.895 Meters <small>NAD83 ELLIPSOIDAL MODEL</small>	
DESCRIPTION	ALUMINUM CAP LOCATED ON THE SW END OF LINE NAF-1		
MONUMENT (SHOW SKETCH OF MONUMENT CAP AND REFERENCES ON BACK OF SHEET.)			
[X] SET	<input type="checkbox"/> RECOVERED	CONDITION	MONUMENT HGT.
DISK SIZE	8.5 CM.	<input type="checkbox"/> GOOD	ABOVE SURF. 2 CM.
DISK TYPE	ALUMINUM	<input type="checkbox"/> DISTURBED	BELOW SURF. _____
MON TYPE	CAP W/ROD	<input type="checkbox"/> NOT USABLE	ABOVE TARG. _____
DEPTH	60 CM.	<input type="checkbox"/> NOT FOUND	BELOW TARG. _____
		<input type="checkbox"/> DESTROYED	<input type="checkbox"/> FLUSH W/Surface
ACCESS		(ACCESS AND LOCATION SKETCHES ON BACK.)	
[<input type="checkbox"/>] 2X4	[<input type="checkbox"/>] 4X4	[<input type="checkbox"/>] WINTER ACCESS	[<input type="checkbox"/>] HIKE IN
[<input type="checkbox"/>] BOAT		[<input type="checkbox"/>] DRIVE TO MON.	[<input type="checkbox"/>] HIKE IS DIFFICULT
[<input type="checkbox"/>] HELICOPTER		[<input type="checkbox"/>] LOCKED GATE	[<input type="checkbox"/>] ACCESS FLAGGED
[<input type="checkbox"/>] ATV		[<input type="checkbox"/>] CONTACT	[<input type="checkbox"/>] NEED BACKPACK
[<input type="checkbox"/>] SUMMER ACCESS		[<input type="checkbox"/>] NO DRIVE IF WET	HIKING TIME : _____
GPS (SHOW OBSTRUCTIONS ON BACK.)		CHECKLIST	
[<input type="checkbox"/>] CAN BE LEFT REMOTE	[<input type="checkbox"/>] TRAFFIC CONCERN'S	[<input type="checkbox"/>] STATION IS DIFFICULT TO FIND	
[<input type="checkbox"/>] OBSTRUCTIONS	[<input type="checkbox"/>] TRAFFIC CONES REQ'D	[<input type="checkbox"/>] RECON PRIOR TO OCCUPATION	
[<input type="checkbox"/>] HIGH SETUP REQ'D	[<input type="checkbox"/>] TRAFFIC SIGNS REQ'D	[<input type="checkbox"/>] DAYS ONLY [<input type="checkbox"/>] NIGHTS ONLY	
[<input type="checkbox"/>] AWKWARD SETUP	[<input type="checkbox"/>] TRAFFIC CONT. REQ'D	[<input type="checkbox"/>] DOGS [<input type="checkbox"/>] RATE OWNER	
[<input type="checkbox"/>] BIPOD REQ'D	[<input type="checkbox"/>] LONG CABLE REQ'	[<input type="checkbox"/>] RF INTERFERENCE	
		[<input type="checkbox"/>] MORE THAN 1 PERSON REQ'D	
REMARKS			



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GPS STATION INFORMATION SHEET

STATION	GPS-003	FINAL COORDINATE VALUES (NAD27)	
METHOD : STATIC GPS DATE : FEB., 1996 AGENCY : N.H.L. SURVEYS SURVEYOR : R. TOBIN MAP REF. : 96-E TOWN : FT. NORMAN PROV. / TERR. : N.W.T. LEGAL DESCRI. : N/A	GEOGRAPHIC VALUES		
	φ : 65° 07' 01.976"	λ : 126° 00' 00.322"	
	UTM COORDINATES		
	N :	E :	
	ELEVATION (AMSL)		
	266.343 Meters		
	*NGS81 ELLIPSOIDAL MODEL		
DESCRIPTION	ALUMINUM CAP LOCATED ON THE NE END OF LINE NAF-2		
MONUMENT (SHOW SKETCH OF MONUMENT CAP AND REFERENCES ON BACK OF SHEET)			
[X] SET	[] RECOVERED	CONDITION	MONUMENT HGT.
DISK SIZE	8.5 CM.	[X] GOOD	ABOVE SURF. 2 CM.
DISK TYPE	ALUMINUM	[] DISTURBED	BELOW SURF. _____
MON TYPE	CAP W/ROD	[] NOT USABLE	ABOVE TARG. _____
DEPTH	60 CM.	[] NOT FOUND	BELOW TARG. _____
		[] DESTROYED	[] FLUSH W/Surface
ACCESS (ACCESS AND LOCATION SKETCHES ON BACK)		CHECKLIST	
[] 2X4	[X] 4X4	[X] WINTER ACCESS	[] HIKE IN
[] BOAT		[] DRIVE TO MON.	[] HIKE IS DIFFICULT
[X] HELICOPTER		[] LOCKED GATE	[] ACCESS FLAGGED
[] ATV		[] CONTACT	[] NEED BACKPACK
[] SUMMER ACCESS		[] NO DRIVE IF WET	HIKING TIME : _____
GPS (SHOW OBSTRUCTIONS ON BACK.)			
[X] CAN BE LEFT REMOTE		[] TRAFFIC CONCERNS	[X] STATION IS DIFFICULT TO FIND
[] OBSTRUCTIONS		[] TRAFFIC CONES REQ'D	[X] RECON PRIOR TO OCCUPATION
[] HIGH SETUP REQ'D		[] TRAFFIC SIGNS REQ'D	[] DAYS ONLY [] NIGHTS ONLY
[X] AWKWARD SETUP		[] TRAFFIC CONT. REQ'D	[] DOGS [] RATE OWNER
[] BIPOD REQ'D		[] LONG CABLE REQ'	[] RF INTERFERENCE
		[] MORE THAN 1 PERSON REQ'D	
REMARKS			



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GPS STATION INFORMATION SHEET

STATION	GPS-004	FINAL COORDINATE VALUES (NAD27)	
METHOD : STATIC GPS		GEOGRAPHIC VALUES	
DATE :	FEB., 1996	ϕ : 64° 57' 53.131"	
AGENCY :	N.H.L. SURVEYS	λ : 126° 26' 22.840"	
SURVEYOR :	R. TOBIN	UTM COORDINATES	
MAP REF. :	96-E	N :	
TOWN :	FT. NORMAN	E :	
PROV. / TERR. :	N.W.T.	ELEVATION (AMSL)	
LEGAL DESCRI. :	N/A	227.558 Meters <small>*NGS91 ELLIPSOIDAL MODEL</small>	
DESCRIPTION	ALUMINUM CAP LOCATED ON THE SW END OF LINE NAF-2		
MONUMENT		(SHOW SKETCH OF MONUMENT CAP AND REFERENCES ON BACK OF SHEET.)	
[X] SET	[] RECOVERED	CONDITION	MONUMENT HGT.
DISK SIZE	8.5 CM.	[X] GOOD	ABOVE SURF. 2 CM.
DISK TYPE	ALUMINUM	[] DISTURBED	BELOW SURF. _____
MON TYPE	CAP W/ROD	[] NOT USABLE	ABOVE TARG. _____
DEPTH	60 CM.	[] NOT FOUND	BELOW TARG. _____
		[] DESTROYED	[] FLUSH W/Surface
ACCESS	(ACCESS AND LOCATION SKETCHES ON BACK.)		
[] 2X4 [X] 4X4	[X] WINTER ACCESS	[] HIKE IN	CHECKLIST
[] BOAT	[] DRIVE TO MON.	[] HIKE IS DIFFICULT	[] PHOTO
[X] HELICOPTER	[] LOCKED GATE	[] ACCESS FLAGGED	[] OBSTRUCTIONS
[] ATV	[] CONTACT	[] NEED BACKPACK	[X] DESCRIPTON
[] SUMMER ACCESS	[] NO DRIVE IF WET	HIKING TIME :	[X] REFERENCES
[X] GPS	(SHOW OBSTRUCTIONS ON BACK.)		
[X] CAN BE LEFT REMOTE	[] TRAFFIC CONCERNs	[X] STATION IS DIFFICULT TO FIND	
[] OBSTRUCTIONS	[] TRAFFIC CONES REQ'D	[X] RECON PRIOR TO OCCUPATION	
[] HIGH SETUP REQ'D	[] TRAFFIC SIGNS REQ'D	[] DAYS ONLY [] NIGHTS ONLY	
[X] AWKWARD SETUP	[] TRAFFIC CONT. REQ'D	[] DOGS [] RATE OWNER	
[] BIPOD REQ'D	[] LONG CABLE REQ'	[] RF INTERFERENCE	
REMARKS	[] MORE THAN 1 PERSON REQ'D		



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GPS STATION INFORMATION SHEET

STATION	GPS-005	FINAL COORDINATE VALUES (NAD27)	
METHOD :	STATIC GPS	GEOGRAPHIC VALUES	
DATE :	FEB., 1996	ϕ :	64° 57' 41.390"
AGENCY :	N.H.L. SURVEYS	λ :	126° 08' 31.903"
SURVEYOR :	R. TOBIN	UTM COORDINATES	
MAP REF. :	96-E	N :	
TOWN :	FT. NORMAN	E :	
PROV. / TERR. :	N.W.T.	ELEVATION (AMSL)	
LEGAL DESCR. :	N/A	115.981 Meters NGS91 ELLIPSOIDAL MODEL	
DESCRIPTION	ALUMINUM CAP LOCATED ON THE NE END OF LINE NAF-4, IN A HELI-PAD AT BOL.		
MONUMENT	(SHOW SKETCH OF MONUMENT CAP AND REFERENCES ON BACK OF SHEET.)		
[X] SET	[] RECOVERED	CONDITION	MONUMENT HGT.
DISK SIZE	8.5 CM.	[X] GOOD	ABOVE SURF. 2 CM.
DISK TYPE	ALUMINUM	[] DISTURBED	BELLOW SURF. _____
MON TYPE	CAP W/ROD	[] NOT USABLE	ABOVE TARG. _____
DEPTH	60 CM.	[] NOT FOUND	BELLOW TARG. _____
		[] DESTROYED	[] FLUSH W/Surface
ACCESS	(ACCESS AND LOCATION SKETCHES ON BACK.)		
[] 2X4	[X] 4X4	[X] WINTER ACCESS	[] HIKE IN
[] BOAT		[] DRIVE TO MON.	[] HIKE IS DIFFICULT
[X] HELICOPTER		[] LOCKED GATE	[] ACCESS FLAGGED
[] ATV		[] CONTACT	[] NEED BACKPACK
[] SUMMER ACCESS		[] NO DRIVE IF WET	HIKING TIME : _____
GPS	(SHOW OBSTRUCTIONS ON BACK.)		
[X] CAN BE LEFT REMOTE		[] TRAFFIC CONCERN'S	[X] STATION IS DIFFICULT TO FIND
[] OBSTRUCTIONS		[] TRAFFIC CONES REQ'D	[X] RECON PRIOR TO OCCUPATION
[X] HIGH SETUP REQ'D		[] TRAFFIC SIGNS REQ'D	[] DAYS ONLY [] NIGHTS ONLY
[X] AWKWARD SETUP		[] TRAFFIC CONT. REQ'D	[] DOGS [] RABBIT OWNER
[] BIPOD REQ'D		[] LONG CABLE REQ'	[] RF INTERFERENCE
[] MORE THAN 1 PERSON REQ'D			
REMARKS			



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GPS STATION INFORMATION SHEET

STATION	GPS-006	FINAL COORDINATE VALUES (NAD27)	
METHOD : STATIC GPS		GEOGRAPHIC VALUES	
DATE : FEB., 1996		ϕ : 64° 51' 02.079"	
AGENCY : N.H.L. SURVEYS		λ : 126° 18' 31.843"	
SURVEYOR : R. TOBIN		UTM COORDINATES	
MAP REF. : 96-E		N :	
TOWN : FT. NORMAN		E :	
PROV. / TERR. : N.W.T.		ELEVATION (AMSL)	
LEGAL DESCR. : N/A		264.171 Meters *NGS91 ELLIPSOIDAL MODEL	
DESCRIPTION		ALUMINUM CAP LOCATED AT THE INTERSECTIONS OF LINES NAF-4 AND NAF-6.	
MONUMENT		(SHOW SKETCH OF MONUMENT CAP AND REFERENCES ON BACK OF SHEET.)	
[X] SET [] RECOVERED		CONDITION	MONUMENT HGT.
DISK SIZE 8.5 CM.		[X] GOOD	ABOVE SURF. 9 CM.
DISK TYPE ALUMINUM		[] DISTURBED	BELOW SURF. _____
MON TYPE CAP W/ROD		[] NOT USABLE	ABOVE TARG. _____
DEPTH 60 CM.		[] NOT FOUND	BELOW TARG. _____
		[] DESTROYED	[] FLUSH W/Surface
ACCESS		(ACCESS AND LOCATION SKETCHES ON BACK)	
[] 2X4 [X] 4X4		[X] WINTER ACCESS	[] HIKE IN
[] BOAT		[] DRIVE TO MON.	[] HIKE IS DIFFICULT
[X] HELICOPTER		[] LOCKED GATE	[] ACCESS FLAGGED
[] ATV		[] CONTACT	[] NEED BACKPACK
[] SUMMER ACCESS		[] NO DRIVE IF WET	HIKING TIME :
GPS		(SHOW OBSTRUCTIONS ON BACK)	
[X] CAN BE LEFT REMOTE		[] TRAFFIC CONCERN'S	[X] STATION IS DIFFICULT TO FIND
[] OBSTRUCTIONS		[] TRAFFIC CONES REQ'D	[X] RECON PRIOR TO OCCUPATION
[X] HIGH SETUP REQ'D		[] TRAFFIC SIGNS REQ'D	[] DAYS ONLY [] NIGHTS ONLY
[X] AWKWARD SETUP		[] TRAFFIC CONT. REQ'D	[] DOGS [] RATE OWNER
[] BIPOD REQ'D		[] LONG CABLE REQ'	[] RF INTERFERENCE
			[] MORE THAN 1 PERSON REQ'D
REMARKS			



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GPS STATION INFORMATION SHEET

STATION	GPS-007	FINAL COORDINATE VALUES (NAD27)	
METHOD : DATE : AGENCY : SURVEYOR : MAP REF. : TOWN : PROV. / TERR. : LEGAL DESCRI. :	STATIC GPS FEB. 1996 N.H.L. SURVEYS R TOBIN 96-E FT. NORMAN N.W.T. N/A	GEOGRAPHIC VALUES	
		ϕ : 64° 42' 21.463"	
		λ : 126° 37' 01.397"	
		UTM COORDINATES	
		N :	
		E :	
ELEVATION (AMSL)			
583.812 Meters		*NGS91 ELLIPSOIDAL MODEL	
DESCRIPTION	ALUMINUM CAP LOCATED AT THE SW END ON LINE NAF-4. SITUATED ON A KNOLL AND THE END OF LINE.		
MONUMENT	(SHOW SKETCH OF MONUMENT CAP AND REFERENCES ON BACK OF SHEET)		
[X] SET	[] RECOVERED	CONDITION	MONUMENT HGT.
DISK SIZE	8.5 CM.	[X] GOOD	ABOVE SURF. 6 CM.
DISK TYPE	ALUMINUM	[] DISTURBED	BELOW SURF. _____
MON TYPE	CAP W/ROD	[] NOT USABLE	ABOVE TARG. _____
DEPTH	60 CM.	[] NOT FOUND	BELOW TARG. _____
		[] DESTROYED	[] FLUSH W/Surface
ACCESS	(ACCESS AND LOCATION SKETCHES ON BACK)		CHECKLIST
[] 2X4 [X] 4X4	[X] WINTER ACCESS	[] HIKE IN	[] PHOTO
[] BOAT	[] DRIVE TO MON.	[] HIKE IS DIFFICULT	[] OBSTRUCTIONS
[X] HELICOPTER	[] LOCKED GATE	[] ACCESS FLAGGED	[X] DESCRIPTON
[] ATV	[] CONTACT	[] NEED BACKPACK	[X] REFERENCES
[] SUMMER ACCESS	[] NO DRIVE IF WET	HIKING TIME :	[X] SKETCHES
GPS	(SHOW OBSTRUCTIONS ON BACK)		
[X] CAN BE LEFT REMOTE	[] TRAFFIC CONCERN'S	[X] STATION IS DIFFICULT TO FIND	
[] OBSTRUCTIONS	[] TRAFFIC CONES REQ'D	[X] RECON PRIOR TO OCCUPATION	
[] HIGH SETUP REQ'D	[] TRAFFIC SIGNS REQ'D	[] DAYS ONLY [] NIGHTS ONLY	
[X] AWKWARD SETUP	[] TRAFFIC CONT. REQ'D	[] DOGS [] RATE OWNER	
[] BIPOD REQ'D	[] LONG CABLE REQ'	[] RF INTERFERENCE	
		[] MORE THAN 1 PERSON REQ'D	
REMARKS			



NEHPETS HOLDINGS LTD. SEISMIC & GPS SURVEYS
704 WILLIAM ST. CALGARY, ALBERTA T2J 2A2 (403)271-4434

GPS STATION INFORMATION SHEET

STATION	GPS-008	FINAL COORDINATE VALUES (NAD27)	
METHOD	STATIC GPS	GEOGRAPHIC VALUES	
DATE	FEB., 1996	ϕ : 64° 59' 58.976"	
AGENCY	N.H.L. SURVEYS	λ : 125° 48' 47.422"	
SURVEYOR	R. TOBIN	UTM COORDINATES	
MAP REF.	96-E	N:	
TOWN	FT. NORMAN	E:	
PROV. / TERR.	N.W.T.	ELEVATION (AMSL)	
LEGAL DESCRI.	N/A	165.829 Meters *NGS91 ELLIPSOIDAL MODEL	
DESCRIPTION	NAIL LOCATED AT THE NE END ON LINE NAF-5, AND AT THE INTERSECTION OF THE FORT SIMPSON - NORMAN WELLS WINTER ROAD.		
MONUMENT	(SHOW SKETCH OF MONUMENT CAP AND REFERENCES ON BACK OF SHEET)		
[] SET	[X] RECOVERED	CONDITION	MONUMENT HGT.
DISK SIZE	NAIL HEAD	[] GOOD	ABOVE SURF. _____
DISK TYPE	STEEL SPIKE	[X] DISTURBED	BELOW SURF. 3 CM. _____
MON TYPE	NAIL	[] NOT USABLE	ABOVE TARG. _____
DEPTH	15 CM.	[] NOT FOUND	BELOW TARG. _____
		[] DESTROYED	[] FLUSH W/Surface
ACCESS		(ACCESS AND LOCATION SKETCHES ON BACK)	
[] 2X4	[X] 4X4	[X] WINTER ACCESS	[] HIKE IN
[] BOAT		[] DRIVE TO MON.	[] HIKE IS DIFFICULT
[X] HELICOPTER		[] LOCKED GATE	[] ACCESS FLAGGED
[] ATV		[] CONTACT	[] NEED BACKPACK
[] SUMMER ACCESS		[] NO DRIVE IF WET	HIKING TIME: _____
GPS		(SHOW OBSTRUCTIONS ON BACK)	
[X] CAN BE LEFT REMOTE		[X] TRAFFIC CONCERN'S	[X] STATION IS DIFFICULT TO FIND
[] OBSTRUCTIONS		[] TRAFFIC CONES REQ'D	[X] RECON PRIOR TO OCCUPATION
[] HIGH SETUP REQ'D		[] TRAFFIC SIGNS REQ'D	[] DAYS ONLY [] NIGHTS ONLY
[X] AWKWARD SETUP		[] TRAFFIC CONT. REQ'D	[] DOGS [] RATE OWNER
[] BIPOD REQ'D		[X] LONG CABLE REQ'	[] RF INTERFERENCE
REMARKS		[] MORE THAN 1 PERSON REQ'D	

N.H.L.

NEIL H. L. SURVEYS LTD. SEISMIC & GPS SURVEYS
704 WILFRED THOMAS DRIVE, CALGARY, ALBERTA T2J 2A2 (403)271-4434

GPS STATION INFORMATION SHEET

STATION	GPS-009	FINAL COORDINATE VALUES (NAD27)	
METHOD	STATIC GPS	GEOGRAPHIC VALUES	
DATE	FEB. 1996	ϕ	64° 42' 58.862"
AGENCY	N.H.L. SURVEYS	λ	126° 01' 53.114"
SURVEYOR	R. TOBIN	UTM COORDINATES	
MAP REF.	96-E	N	
TOWN	FT. NORMAN	E	
PROV. / TERR.	N.W.T.	ELEVATION (AMSL)	
LEGAL DESCRI.	N/A	275.003 Meters	*NGS91 ELLIPSOIDAL MODEL
DESCRIPTION	MONUMENT LOCATED APPROXIMATELY 150 METERS NE FROM LINE NAF-6 ALONG AN EXISTING CUT-LINE, (113)		
MONUMENT	(SHOW SKETCH OF MONUMENT CAP AND REFERENCES ON BACK OF SHEET)		
[] SET	[X] RECOVERED	CONDITION	MONUMENT HGT.
DISK SIZE	8.5 CM.	[] GOOD	ABOVE SURF. 2 CM.
DISK TYPE	ALUMINUM	[X] DISTURBED	BELOW SURF. _____
MON TYPE	CAP W/ROD	[] NOT USABLE	ABOVE TARG. _____
DEPTH	60 CM.	[] NOT FOUND	BELOW TARG. _____
		[] DESTROYED	[] FLUSH W/Surface
ACCESS	(ACCESS AND LOCATION SKETCHES ON BACK)		
[] 2X4 [X] 4X4	[X] WINTER ACCESS	[X] HIKE IN	CHECKLIST
[] BOAT	[] DRIVE TO MON.	[] HIKE IS DIFFICULT	[] PHOTO
[X] HELICOPTER	[] LOCKED GATE	[] ACCESS FLAGGED	[] OBSTRUCTIONS
[] ATV	[] CONTACT	[] NEED BACKPACK	[X] DESCRIPTON
[] SUMMER ACCESS	[] NO DRIVE IF WET	HIKING TIME :	[X] REFERENCES
[X] SKETCHES			[X] SKETCHES
GPS (SHOW OBSTRUCTIONS ON BACK)			
[X] CAN BE LEFT REMOTE	[] TRAFFIC CONCERN'S	[X] STATION IS DIFFICULT TO FIND	
[] OBSTRUCTIONS	[] TRAFFIC CONES REQ'D	[X] RECON PRIOR TO OCCUPATION	
[] HIGH SETUP REQ'D	[] TRAFFIC SIGNS REQ'D	[] DAYS ONLY [] NIGHTS ONLY	
[X] AWKWARD SETUP	[] TRAFFIC CONT. REQ'D	[] DOGS [] RATE OWNER	
[] BIPOD REQ'D	[] LONG CABLE REQ'	[] RF INTERFERENCE	
		[] MORE THAN 1 PERSON REQ'D	
REMARKS			



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GPS STATION INFORMATION SHEET

STATION	GPS-010	FINAL COORDINATE VALUES (NAD27)		
METHOD : DATE : AGENCY : SURVEYOR : MAP REF. : TOWN : PROV. / TERR. : LEGAL DESCRI. :	STATIC GPS FEB., 1996 N.H.L. SURVEYS R. TOBIN 96-E FT. NORMAN N.W.T. N/A	GEOGRAPHIC VALUES		
		φ : 64° 39' 36.572"	λ : 125° 51' 12.178"	
		UTM COORDINATES		
		N :	E :	
		ELEVATION (AMSL)		
		369.217 Meters <small>*NGS91 ELLIPSOIDAL MODEL</small>		
DESCRIPTION		MONUMENT LOCATED APPROXIMATELY 200 METERS NE FROM LINE NAF-6 ALONG AN EXISTING CUT-LINE, (113A) AS WELL IT IS SITUATED APPROX. 30 METERS FROM THE INTERSECTION OF 2 EXISTING CUTLINES.		
MONUMENT (SHOW SKETCH OF MONUMENT CAP AND REFERENCES ON BACK OF SHEET)				
[] SET DISK SIZE DISK TYPE MON TYPE DEPTH	[X] RECOVERED 8.5 CM. ALUMINUM CAP W/ROD 60 CM.	CONDITION [] GOOD [X] DISTURBED [] NOT USABLE [] NOT FOUND [] DESTROYED	MONUMENT HGT. ABOVE SURF. 2 CM. BELOW SURF. ABOVE TARG. BELOW TARG. [] FLUSH W/Surface	
		<small>[] DATUM PT. [X] REF. MARKS [] WITT. POSTS [X] MONUMENT</small> IS DETECTABLE		
ACCESS		(ACCESS AND LOCATION SKETCHES ON BACK.)		
[] 2X4 [] BOAT [X] HELICOPTER [] ATV [] SUMMER ACCESS	[X] 4X4 [] DRIVE TO MON. [] LOCKED GATE [] CONTACT [] NO DRIVE IF WET	[X] WINTER ACCESS [] HIKE IN [] HIKE IS DIFFICULT [] ACCESS FLAGGED [X] NEED BACKPACK	CHECKLIST <small>[] PHOTO [] OBSTRUCTIONS [X] DESCRIPTON [X] REFERENCES [X] SKETCHES</small>	
GPS		(SHOW OBSTRUCTIONS ON BACK.)		
[X] CAN BE LEFT REMOTE [] OBSTRUCTIONS [] HIGH SETUP REQ'D [X] AWKWARD SETUP [] BIPOD REQ'D		[] TRAFFIC CONCERN'S [] TRAFFIC CONES REQ'D [] TRAFFIC SIGNS REQ'D [] TRAFFIC CONT. REQ'D [] LONG CABLE REQ'		[X] STATION IS DIFFICULT TO FIND [X] RECON PRIOR TO OCCUPATION [] DAYS ONLY [] NIGHTS ONLY [] DOGS [] RATE OWNER [] RF INTERFERENCE [] MORE THAN 1 PERSON REQ'D
REMARKS				



NEHPETS HOLDINGS LTD. SEISMIC & GPS SURVEYS
104 WILLIAM III DRIVE S.E., CALGARY, ALBERTA T2J 2A2 (403)271-4434

GPS STATION INFORMATION SHEET

STATION	GPS-011	FINAL COORDINATE VALUES (NAD27)	
METHOD	STATIC GPS	GEOGRAPHIC VALUES	
DATE	FEB., 1996	ϕ	64° 55' 56.647"
AGENCY	N.H.L. SURVEYS	λ	125° 57' 47.850"
SURVEYOR	R. TOBIN	UTM COORDINATES	
MAP REF.	96-E	N	
TOWN	FT. NORMAN	E	
PROV. / TERR.	N.W.T.	ELEVATION (AMSL)	
LEGAL DESCRI.	N/A	062.941 Meters	*NGS91 ELLIPSOIDAL MODEL
DESCRIPTION	MONUMENT IS EXISTING GOVERNMENT OF CANADA GEODETIC BM. # 74T-068.		
MONUMENT	(SHOW SKETCH OF MONUMENT CAP AND REFERENCES ON BACK OF SHEET.)		
[] SET	[X] RECOVERED	CONDITION	MONUMENT HGT.
DISK SIZE	8.5 CM.	[] GOOD	ABOVE SURF. 2 CM.
DISK TYPE	ALUMINUM	[X] DISTURBED	BELOW SURF. _____
MON TYPE	CAP W/ROD	[] NOT USABLE	ABOVE TARG. _____
DEPTH	60 CM.	[] NOT FOUND	BELOW TARG. _____
		[] DESTROYED	[] FLUSH W/Surface
ACCESS	(ACCESS AND LOCATION SKETCHES ON BACK.)		
[] 2X4	[] 4X4	[X] WINTER ACCESS	[] HIKE IN
[X] BOAT		[] DRIVE TO MON.	[] HIKE IS DIFFICULT
[X] HELICOPTER		[] LOCKED GATE	[] ACCESS FLAGGED
[] ATV		[] CONTACT	[] NEED BACKPACK
[] SUMMER ACCESS		[] NO DRIVE IF WET	HIKING TIME: _____
GPS	(SHOW OBSTRUCTIONS ON BACK)		
[X] CAN BE LEFT REMOTE	[] TRAFFIC CONCERN'S	[X] STATION IS DIFFICULT TO FIND	
[] OBSTRUCTIONS	[] TRAFFIC CONES REQ'D	[X] RECON PRIOR TO OCCUPATION	
[] HIGH SETUP REQ'D	[] TRAFFIC SIGNS REQ'D	[] DAYS ONLY [] NIGHTS ONLY	
[X] AWKWARD SETUP	[] TRAFFIC CONT. REQ'D	[] DOGS [] RATE OWNER	
[] BIPOD REQ'D	[] LONG CABLE REQ'	[] RF INTERFERENCE	
		[] MORE THAN 1 PERSON REQ'D	
REMARKS			