



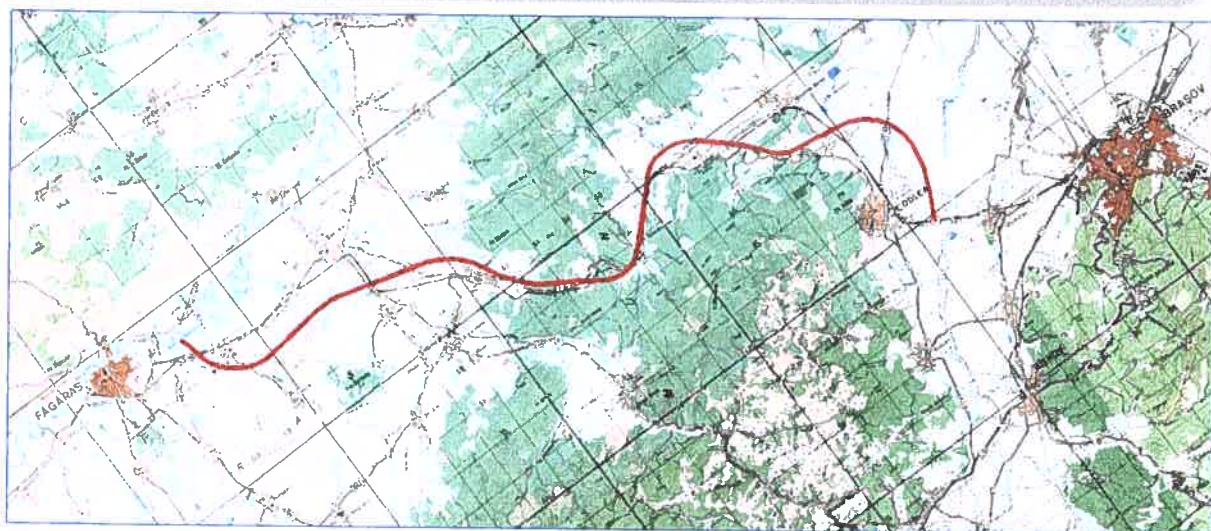
**INVESTITOR:**  
**MINISTERUL TRANSPORTURILOR**  
**MINISTRY OF TRANSPORTS**



**ACHIZITOR / CLIENT:**  
**COMPANIA NATIONALA DE AUTOSTRAZI**  
**SI DRUMURI NATIONALE DIN ROMANIA**  
**ROMANIAN NATIONAL COMPANY OF**  
**MOTORWAYS AND NATIONAL ROADS**

**SERVICII DE PROIECTARE SI ASISTENTA TEHNICA**  
**PENTRU SECTIUNEA 1A**  
**CRISTIAN – FAGARAS A AUTOSTRAZII TRANSILVANIA,**  
**BRASOV – CLUJ – BORS**

**DESIGN SERVICES AND TECHNICAL ASSISTANCE FOR**  
**SUBSECTION 1A**  
**CRISTIAN – FAGARAS OF MOTORWAY TRANSILVANIA,**  
**BRASOV – CLUJ – BORS**



**CONTRACT Nr. 21 593 / 25.10.2007**

***VOL. 2.2.1. LUCRARI TOPOGRAFICE***  
***CHAPTER 2.2.1. TOPOGRAPHICAL WORKS***  
***Km. 0+000 – Km. 24+000***

***2.2.1.3. Piese scrise, Planuri de trasare***  
***2.2.1.3. Written Parts, Setting Drawings***

**POYRY Infra GmbH**



**S.C. CONSILIER CONSTRUCT S.R.L.**



**- OCTOMBRIE / OCTOBER 2008 -**

**MINISTERUL INTERNELOR ȘI REFORMEI ADMINISTRATIVE**  
**AGENTIA NAȚIONALĂ DE CADASTRU ȘI PUBLICITATE IMOBILIARĂ**

**Oficiul de Cadastru și Publicitate Imobiliară Brașov**  
Str. Piața Sfatului, nr.26A, 2200 - Brașov  
Tel./fax : 068 - 471808, 477078  
e-mail: bv@ancpi.ro  
cod fiscal: 9870320

**AVIZ**

**Numărul 7/ 31.07.2008**

**Către : S.C. TOP POINT S.R.L**

**Analizând solicitarea dumneavoastră, înregistrată în evidențele O.C.P.I. Brașov cu numărul 5512/30.07.2008, în vederea realizării lucrării :**  
**Studiu topografic pentru proiectarea autostrăzii Transilvania**  
**Secțiunea 1A, Cristian - Dumbrăvița**

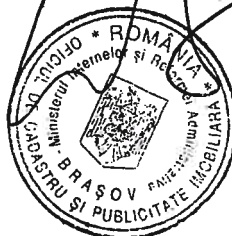
**Avizăm favorabil realizarea lucrărilor conform documentației anexate și recomandăm să fie utilizate și integrate următoarele :**

- REȚEA DE SPRIJIN - SECANT '70
- PLAN CADASTRAL Sc. 1:5000
- PLAN TOPOGRAFIC Sc. 1:5000

Documentația se va realiza conform solicitărilor C.N.A.D.N.R., cu respectarea reglementărilor în vigoare.

După întocmirea documentației, aceasta se va depune la O.C.P.I. Brașov pentru recepție.

**Director ,**  
**CONSTANTIN BELĂȘCU**



**MEMORIU JUSTIFICATIV  
PRELUCRĂRI**

# MEMORIU JUSTIFICATIV

## 1. DATE GENERALE

**Denumirea lucrării:** Studii topografice Autostrada Transilvania, secțiunea IA, (Cristian – Făgăraș), Brașov-Cluj-Borș, tronsonul 1  
Km 0+000 – Km 24+000

**Beneficiarul lucrării:** S.C. Consilier Construct

**Beneficiarul final al lucrării:** C.N.A.D.N.R.

**Amplasamentul lucrării:**

Tronsonul studiat începe de la intersecția cu DN1, la aproximativ 1 Km față de podul ce traversează pârâul Bârsa spre Codlea, la Km 179+000, intersectează drumul județean 112, trece printre cele două ferme de animale intersectând drumul comunal 44 spre Dumbrăvița la aproximativ 1Km față de intersecția acestuia cu DN1, traseul continuând la baza dealului unde sunt amplasate cele două relee de telefonie, intersectând linia de cale ferată în apropierea satului Vlădeni. După această intersecție autostrada ocolește acest sat, trecând în apropierea fermei existente la ieșirea din sat, traseul aliniindu-se cu drumul național 1, până la intersecția cu acesta, la aproximativ 800m de Cimitirul existent la marginea pădurii pe partea dreaptă, la Km 203+500. Capătul tronsonului studiat se află la 500 m de la intersecția cu drumul național 1, în pădure, axul amprizei situându-se la aproximativ 250 m de tunelul existent de cale ferată.

**Termenul de execuție a studiului topografic :** 30 zile

**Suprafața ridicată:** 870 ha

## 2.TEMA LUCRĂRII

Tema propusă pentru această lucrare transmisă de beneficiar a avut în conținut următoarele puncte:

a. Ridicări topografice pentru ampriză de 300m cu puncte măsurate astfel:

- pentru zonele de șes :ax+5puncte stânga și 5 puncte dreapta

- ◆ la 10m față de ax
- ◆ la aprox. 25m față de ax
- ◆ la aprox. 60m față de ax
- ◆ la aprox. 100m față de ax
- ◆ la aprox. 150m față de ax

Distanța între profile va fi de 50-60m și mai mică acolo unde necesită acest lucru datorită declivităților profilului longitudinal al terenului în axul amprizei.

- pentru zonele de deal:ax+6puncte stânga și 6 puncte dreapta

- ◆ la 10m față de ax
- ◆ la aprox. 25m față de ax
- ◆ la aprox. 45m față de ax
- ◆ la aprox. 70m față de ax
- ◆ la aprox. 100m față de ax
- ◆ la aprox. 150m față de ax

Distanța între profile va fi de 25-30m și mai mică acolo unde necesită acest lucru datorită declivităților profilului longitudinal al terenului în axul amprizei.

b. Ridicări topografice pentru toate obstacolele existente în ampriză

- limite de proprietate, păduri, liziere, fânețe sau alte culturi, clădiri unde este cazul;
- rețele electrice și de telefonie, stâlpii aferenți acestora și înălțimea la care se află firele atunci când axul amprizei trece pe sub acestea;
- la intersecțiile cu drumuri neclasificate, laterale sau care traversează ampriza se vor efectua măsurători în profile transversale la 30-40m distanță între ele, cu ridicarea tuturor elementelor caracteristice acestora (ax, parte carosabilă, platformă, taluz, șanțuri...);
- la intersecțiile cu drumuri clasificate, laterale sau care traversează ampriza se vor efectua măsurători în profile transversale la 25-30m distanță între ele, cu ridicarea tuturor elementelor caracteristice acestora (ax, parte carosabilă, platformă, taluz, șanțuri...);

- la intersecțiile cu calea ferată se vor ridica detalii în profile transversale la distanță de 40m între acestea;
  - la intersecțiile cu canale de irigații, văi, viroage, torenți, rigole sau talveguri se vor ridica detalii în profile transversale din 25 în 25m distanță;
  - se vor ridica și alte detalii pe care inginerul topograf le consideră importante pentru lucrare.
- c. Se vor întocmi planuri de situație la scara 1:1000
- d. Punctele radiate vor fi codificate, iar fișierele cu datele topografice se vor realiza în format de tip ASCII și document
- e. Punctele care vor fi început de linie vor fi codificate  
corestpunzător:GARDST
- f. Toate liniile și punctele vor fi prelucrate în format '3d', atât pentru formatul ASCII, cât și pentru formatul document
- g. Se vor realiza ridicări topografice suplimentare față de ampriza de ridicare astfel:
- Drumul vicinal de la Km 2+900 - 600m spre Est și 600m spre Vest
  - Drumul vicinal de la Km 6+700 – 700m spre Est și 300m spre Vest
  - Drumul comunal nr. 44 de la Km 8+450 – 700m spre Sud și 500 spre Nord
  - Drumul vicinal de la Km 16+530 – 700m spre Sud și 300m spre Nord
  - Drumul Național nr.1 de la Km 23+500 – 800m spre sud și 400 spre Nord
- Se va completa rețeaua de puncte deja ridicată între Km 0+000-1+100

cu 250m la vest și 500m către Est.

### **3. CARACTERISTICILE APARATURII FOLOSITE LA MĂSURĂTORI ȘI PROGRAMELE DE PRELUCRARE**

Măsurătorile GPS au fost efectuate cu 8 receptoare: un receptor L1,2 Z-MAX de tipul Ashtech , două receptoare Trimble L1,2 4800, patru receptoare Trimble L1,2 4700 și un receptor de tip TRIMBLE 4400 – L1,2.

Prelucrarea măsurătorilor s-a realizat cu Softul GPSurvey al firmei Trimble.

Integrarea rețelei GPS în rețeaua geodezică de stat s-a realizat cu program propriu de transformare de pe elipsoid în planul de proiecție.

Ridicările profilelor transversale și a detaliilor topografice au fost realizate cu două tahimetre electronice (stații totale) de tip Leica TC403 și TCR1200 cu următoarele caracteristici cu prismă standard:

TC403 –

precizia de măsurare a unghiurilor: 3”(10”)  
precizia de măsurare a distanțelor cu o prismă:  
2mm+2ppm(aprox. 4mm/km)  
domeniul de măsurare a distanțelor cu o prismă : 3000m cu  
vizibilitate la 20 Km  
timpul de măsurare a distanțelor : 1”

TCR1205-

precizia de măsurare a unghiurilor: 1.5”  
precizia de măsurare a distanțelor cu o prismă: 2mm+2ppm  
timpul de măsurare a distanțelor : 1,5”  
domeniul de măsurare a distanțelor cu o prismă : 3000m cu  
vizibilitate la 20 Km

Prelucrarea măsurătorilor se va realiza cu softul Leica Geo Office LGO al firmei Leica și cu gama de programe Microsoft Office, programele de compensare fiind proprii.

#### 4. DESCRIEREA LUCRĂRILOR EFECTUATE

Măsurătorile topografice s-au desfășurat în intervale de timp când temperatura a fost optimă pentru lucru, cuprinsă între 12°C și 25°C, pentru evitarea orajului și a influenței temperaturii asupra datelor ridicării topografice.

Punctele de stație ale drumuirilor propuse au fost alese astfel încât să existe vizibilitate înapoi-înainte din fiecare stație, ținându-se cont la amplasarea acestora în teren de toate detaliile ce se ridică din aceste puncte.

S-au realizat drumuiri pe tronsoane, sprijinite la ambele capete cu puncte de coordonate și laturi cunoscute din măsurătorile GPS.

S-a efectuat compensarea clasică pe orientări, pe creșterile de coordonate și diferențe de nivel și apoi s-au ridicat profilele transversale și detaliile din teren.

Punctele de stație alese pentru tronsoanele de drumuire au respectat traseul axului autostrăzii.

Erorile de măsurare s-au încadrat în toleranțele calculate în funcție de distanță și de numărul stațiilor efectuate.

Punctele de stație s-au materializat cu țaruși din oțel beton, marca PCØ16, vizibilitatea în teren asigurându-se cu vopsea roșie.

Punctele de rețelei de sprijin GPS au fost materializate prin borne de beton.

Întocmit,  
Ing. Gabriel Dimancea



Oficiul de Cadastru și Publicitate Imobiliară BR  
Nume: ... .. Număr: CEN ȚU ROMEO  
Funcția: SUȘINGINER 23 -09- 200

**COMPENSARE CLASICĂ DRUMUIRE SPRIIUNITĂ LA CAPETE - TRONSON 1**

Stații [numar]	Dist oriz. comp. [m]	Orientare comp. [g c cc]	Dif. Prov. Nord [m]	Dif. Prov. Est [m]	Corectie Nord [m]	Corectie Est [m]	Dif. Comp. Nord [m]	Dif. Comp. Est [m]	Coord. Comp. Nord [m]	Coord. Comp. Est [m]	Hprov. [m]	Corectia [m]	Hcomp. [m]
[TPA317]1288													
[TPA318]1177													
930	834.339	17.6486	802.483	228.348	-0.070	0.081	802.413	228.429	464074.549	537702.042	553.817		553.817
1501	672.390	1.3811	672.231	14.585	-0.056	0.066	672.175	14.651	464724.181	536948.959	554.893		554.893
1289	610.713	0.9820	610.640	9.420	-0.051	0.060	610.589	9.480	465526.594	537177.388	549.322	-0.047	549.275
1655	347.656	395.9584	346.955	-22.056	-0.029	0.034	346.926	-22.022	466198.769	537197.039	545.234	-0.038	545.149
1589	785.867	300.5339	6.591	-785.840	-0.066	0.077	6.525	-785.763	466809.358	537201.519	542.144	-0.035	542.024
1985	239.740	330.9548	112.031	-211.953	-0.020	0.023	112.011	-211.930	467156.284	537179.497	541.682	-0.020	541.543
[TPA319]1986									467162.809	536393.734	543.066	-0.044	542.882
[TPA320]1988									467274.820	536181.804	543.367	-0.014	543.170
	451.793	298.7320	-8.998	-451.703	-0.038	0.044	-9.036	-451.659	467265.784	535730.145	545.156	-0.026	544.933
									467412.933	535741.746			
									ΣdifNord just	ΣdifEst just		Σ	
									2541.603	-1218.814			
	3942.497		2541.934	-1219.199	-0.331	0.385							

εN=

0.331 m

εE=

-0.385 m

ε (eroarea totala lineara a capatului drumuirii)

0.508 m

T (toleranta extravilan)

5.100 m

ε<sub>i</sub> (eroare de inchidere)

0.223 m

T (toleranta de inchidere)

0.397 m





**COMPENSARE CLASICĂ DRUMUIRE SPRUINIȚĂ LA CAPETE - TRONSON 2**

Statii [numar]	Dist oriz. comp. [m]	Orientare comp. [g c cc]	Dif. Prov. Nord [m]	Dif. Prov. Est [m]	Corectie Nord [m]	Corectie Est [m]	Dif. Comp. Nord [m]	Dif. Comp. Est [m]	Coord. Comp. Nord [m]	Coord. Comp. Est [m]	Hprov. [m]	Corectia [m]	Hcomp. [m]
(TPA322)2710													
(TPA321)3875													
2711	256.352	191.6095132	-254.129	33.689	0.026	0.028	-254.103	33.716	469930.196	538016.538	527.451		527.451
2718	149.893	197.9003216	-149.812	4.943	0.016	0.016	-149.796	4.959	469562.989	537574.964	530.652		530.652
2861	143.340	208.2099826	-143.158	-7.224	0.015	0.015	-143.143	-7.209	469308.886	537608.681	530.777	-0.017	530.760
2902	156.632	205.8205854	-155.978	-14.301	0.016	0.017	-155.962	-14.284	469159.090	537613.640	531.425	-0.010	531.398
2537	299.822	204.5677254	-299.051	-21.491	0.031	0.032	-299.020	-21.459	469015.947	537606.431	532.293	-0.009	532.257
2283	299.972	204.5777078	-299.197	-21.551	0.031	0.032	-299.166	-21.519	468859.985	537592.147	532.890	-0.010	532.843
1989	199.002	204.5832448	-198.487	-14.314	0.021	0.021	-198.466	-14.293	468261.799	537549.169	535.577	-0.020	534.420
2153	451.563	208.5893536	-447.459	-60.741	0.047	0.049	-447.412	-60.692	468063.333	537534.876	536.417	-0.013	536.318
2276	349.970	205.9858134	-348.374	-32.853	0.036	0.038	-348.338	-32.815	467474.184	537441.369	538.534	-0.030	538.405
1592	257.281	289.957914	-40.416	-254.087	0.027	0.028	-40.389	-254.059	467267.583	537187.310	540.629	-0.023	540.477
2280	957.165	301.9691083	29.601	-956.707	0.099	0.103	29.700	-956.604	467227.194	536230.706	541.151	-0.017	540.982
1982	94.118	313.641963	20.014	-91.965	0.010	0.010	20.024	-91.955	467256.894	536230.706	542.781	-0.063	542.548
(TPA319)1986	408.802	298.2592629	-11.177	-408.650	0.042	0.044	-11.134	-408.605	467276.918	536198.751	544.240	-0.006	544.001
(TPA320)1988									467265.784	535730.145	545.199	-0.027	544.933
	$\Sigma$ dist.		$\Sigma$ difNord prov.	$\Sigma$ difEst prov.	$\Sigma$	$\Sigma$	$\Sigma$ Corectie Nord	$\Sigma$ Corectie Est	$\Sigma$ difNord just	$\Sigma$ difEst just		$\Sigma$	
	4023.863		-2297.621	-1845.253	0.416	0.434			-2297.205	-1844.819		-0.266	

$\epsilon N = -0.416$  m  
 $\epsilon E = -0.434$  m  
 $\epsilon$  (eroarea totala lineara a capatului drumului)  
 $T$  (toleranta extravilan)

$\epsilon_n$  (eroare de inchidere)  
 $T$  (toleranta de inchidere)

0.266 m  
 0.401 m



**COMPENSARE CLASICĂ DRUMUIRE SPRINIȚĂ LA CAPETE - TRONSON 3**

Statii [numar]	Dist oriz. comp. [m]	Orientare comp. [g c cc]	Dif. Prov. Nord [m]	Dif. Prov. Est [m]	Corectie Nord [m]	Corectie Est [m]	Dif. Comp. Nord [m]	Dif. Comp. Est [m]	Coord. Comp. Nord [m]	Coord. Comp. Est [m]	Hprov. [m]	Corectia [m]	Hcomp. [m]
(TPA323)6063													
(53)22466													
4998	627.480	131.3060294	-296.279	553.127	0.071	0.074	-296.208	553.201	471609.724	534747.135	541.030		541.030
4036	868.653	105.3717125	-73.209	865.563	0.099	0.102	-73.110	865.665	471228.459	534751.229	543.813	-0.036	543.813
4038	234.827	148.6876245	-162.590	169.435	0.027	0.028	-162.563	169.463	470832.251	535304.431	541.854	-0.050	541.818
4043	172.537	69.0008367	80.733	152.484	0.020	0.020	80.753	152.504	470859.141	536170.096	535.541	-0.013	535.456
4055	349.353	128.7242236	-152.334	314.392	0.040	0.041	-152.294	314.433	470777.331	536492.063	534.108	-0.010	534.009
3545	299.526	140.8185937	-179.158	240.038	0.034	0.035	-179.124	240.073	470625.037	536806.496	532.963	-0.020	532.854
3679	349.334	153.0193261	-258.450	235.028	0.040	0.041	-258.410	235.069	470445.913	537046.569	528.626	-0.017	528.480
3744	249.734	164.2543863	-211.390	132.971	0.028	0.029	-211.362	133.000	470187.503	537281.638	528.541	-0.020	528.376
3873	398.974	176.4435901	-371.971	144.284	0.045	0.047	-371.926	144.331	469976.141	537414.638	529.091	-0.014	528.911
(TPA321)3875	44.224	176.4475838	-41.231	15.990	0.005	0.005	-41.226	15.996	469604.215	537558.969	530.430	-0.023	530.228
(TPA322)2710									469562.989	537574.964	530.857	-0.003	530.652
	Σ dist.		Σ dif. Nord prov.	Σ dif. Est prov.	Σ corectie Nord	Σ corectie Est	Σ dif. Comp. Nord	Σ dif. Comp. Est	Σ coord. Nord just	Σ coord. Est just	Σ hprov.	Σ corectia	Σ hcomp.
	3594.643		-1665.879	2823.311	0.409	0.424	-1665.470	2823.735				-0.205	

εN=

-0.409 m

εE=

-0.424 m

ε(eroarea totala lineara a capatului drumuirii)

0.589 m

T(toleranta extravilan)

4.772 m

ε<sub>h</sub>(eroare de inchidere)

0.205 m

T(toleranta de inchidere)

0.379 m



**COMPENSARE CLASICĂ DRUMUIRE SPRIJINĂ LA CAPETE - TRONSON 4**

Stății [număr]	Dist oriz. comp. [m]	Orientare comp. [g c cc]	Dif. Prov. Nord [m]	Dif. Prov. Est [m]	Corectie Nord [m]	Corectie Est [m]	Dif. Comp. Nord [m]	Dif. Comp. Est [m]	Coord. Comp. Nord [m]	Coord. Comp. Est [m]	Hprov. [m]	Corectia [m]	Hcomp. [m]
(TPA323)6063													
(53)22466													
6064	125.332	321.1041	40.791	-118.509	-0.008	-0.014	40.783	-118.523	471609.724	534747.135	541.030		541.030
6437	705.131	315.0114	164.732	-685.619	-0.046	-0.080	164.686	-685.699	471228.459	534751.229	543.813		543.813
6953	204.944	350.5836	146.239	-143.583	-0.013	-0.023	146.226	-143.606	471433.928	534632.706	542.276	-0.008	542.268
7898	721.071	324.2707	268.292	-669.300	-0.047	-0.082	268.245	-669.382	471580.154	533947.007	551.202	-0.047	551.146
8153	213.064	286.8250	-43.780	-208.518	-0.014	-0.024	-43.794	-208.542	471848.399	533134.019	613.447	-0.048	613.329
9466	220.409	329.2150	97.634	-197.605	-0.014	-0.025	97.620	-197.630	471804.605	532925.477	599.886	-0.014	599.754
8175	75.100	359.1318	60.150	-44.967	-0.005	-0.009	60.145	-44.976	471902.225	532727.847	579.111	-0.015	578.964
8310	159.292	322.6972	55.596	-149.275	-0.010	-0.018	55.586	-149.293	471962.370	532682.871	589.405	-0.005	589.253
8414	883.492	327.3929	368.532	-802.958	-0.058	-0.101	368.474	-803.059	472017.956	532533.578	593.472	-0.011	593.309
9302	399.477	329.0155	175.833	-358.698	-0.026	-0.046	175.807	-358.744	472386.430	531730.519	604.951	-0.059	604.729
21728	117.730	5.2227	117.334	9.647	-0.008	-0.013	117.326	9.634	472562.237	531371.775	603.921	-0.027	603.672
20905	371.461	371.0001	333.582	-163.420	-0.024	-0.042	333.558	-163.462	473013.121	531217.947	588.292	-0.008	588.035
(TPA326)21480	208.873	3.5669	208.546	11.697	-0.014	-0.024	208.532	11.673	473222.653	531229.620	537.945	-0.014	537.649
Idist.	4405.376								IdifNord just	IdifEst just			554.735
			1993.481	-3521.107	-0.287	-0.502	1993.194						

$\epsilon N =$

0.287

$\epsilon E =$

0.502

$\epsilon$ (eroarea totală lineara a capatului drumuirii)

0.578

T(toleranța extravilan)

5.529

$\epsilon_n$ (eroare de închidere)

0.296 m

T(toleranța de închidere)

0.420 m





**COMPENSARE CLASICĂ DRUMUIRE SPRINIȚĂ LA CAPETE - TRONSON 6**

Statii [numar]	Dist oriz. comp. [m]	Orientare comp. [g c cc]	Dif. Prov. Nord [m]	Dif. Prov. Est [m]	Corectie Nord [m]	Corectie Est [m]	Dif. Comp. Nord [m]	Dif. Comp. Est [m]	Coord. Comp. Nord [m]	Coord. Comp. Est [m]	Hprov. [m]	Corectia [m]	Hcomp. [m]
(TPA329)10803													
(TPA330)10809													
15752	91.967	361.5054	75.660	-52.282	-0.016	-0.015	75.644	-52.297	474298.381	526015.311	548.129		548.129
15989	224.570	50.7413	156.935	160.633	-0.039	-0.036	156.896	160.597	474569.168	526232.039	543.253	-0.008	543.253
16301	158.895	67.4100	77.835	138.525	-0.027	-0.025	77.808	138.500	474644.812	526179.742	548.665	-0.020	548.657
16679	429.384	82.0754	119.306	412.477	-0.074	-0.069	119.232	412.408	474801.708	526340.339	548.500	-0.014	548.472
17093	304.699	87.4069	59.881	298.757	-0.053	-0.049	59.828	298.708	474998.748	526891.247	548.709	-0.038	548.629
17164	97.394	93.8921	9.330	96.946	-0.017	-0.016	9.313	96.930	475058.576	527189.955	548.747	-0.027	548.640
17453	230.367	90.2648	35.091	227.679	-0.040	-0.037	35.051	227.642	475067.889	527286.885	549.130	-0.009	549.014
17536	177.661	94.5680	15.141	177.014	-0.031	-0.028	15.110	176.986	475102.940	527514.527	551.793	-0.020	551.656
17748	487.673	86.4618	102.927	476.687	-0.084	-0.078	102.843	476.609	475118.050	527691.513	552.200	-0.043	552.004
17838	206.913	87.1921	41.348	202.740	-0.036	-0.033	41.312	202.707	475220.893	528168.122	552.200	-0.018	547.297
18149	241.654	101.5379	-5.837	241.584	-0.042	-0.039	-5.879	241.545	475256.326	528370.829	559.341	-0.021	559.105
18509	242.349	119.1008	-71.627	231.523	-0.042	-0.039	-71.669	231.484	475184.657	528612.374	559.105	-0.022	558.848
18618	361.319	129.2693	-160.330	323.799	-0.062	-0.058	-160.392	323.741	475024.265	529167.599	554.838	-0.032	554.549
(TPA328)18514	291.149	240.7193	-233.596	-173.783	-0.050	-0.047	-233.646	-173.830	474790.619	528993.769	548.758	-0.026	548.443
(TPA327)18511									474700.259	528779.373			
	Idist.		IdifNord prov.	IdifEst prov.	Σ	Σ			IdifNord just	IdifEst just		Σ	
	3545.993		222.063	2762.298	-0.612	-0.568			221.451	2761.73		-0.315	

εN=

0.612 m

εE=

0.568 m

ε(eroarea totala lineara a capatului drumului)

0.835 m

T(toleranta extravilan)

4.726 m

ε<sub>N</sub>(eroare de inchidere)

0.315 m

T(toleranta de inchidere)

0.377 m



**COMPENSARE CLASICĂ DRUMUIRE SPRIJINITĂ LA CAPEȚE - TRONSON 7**

Statii [numar]	Dist oriz. comp. [m]	Orientare comp. [g c cc]	Dif. Prov. Nord [m]	Dif. Prov. Est [m]	Corectie Nord [m]	Corectie Est [m]	Dif. Comp. Nord [m]	Dif. Comp. Est [m]	Coord. Comp. Nord [m]	Coord. Comp. Est [m]	Hprov. [m]	Corectia [m]	Hcomp. [m]
(TPA330)10809													
(TPA329)10803													
10712	219.711	259.1281506	-131.565	-175.965	0.026	0.037	-131.539	-175.928	474569.168	526232.0390	543.253		543.253
10491	300.186	273.9116001	-119.601	-275.332	0.036	0.051	-119.565	-275.281	474298.381	526015.3110	548.129	-0.017	548.129
10328	304.082	226.1978204	-278.696	-121.632	0.036	0.051	-278.660	-121.581	474047.277	525839.3830	552.506	-0.023	552.489
11379	950.643	250.0516965	-671.660	-672.752	0.113	0.160	-671.547	-672.592	473768.617	525564.1020	563.278	-0.023	563.238
12879	425.404	265.8011534	-217.691	-365.485	0.051	0.072	-217.640	-365.413	473097.070	524769.9290	555.917	-0.073	555.781
12718	145.933	243.2147983	-113.582	-91.628	0.017	0.025	-113.565	-91.603	472879.430	524404.5160	564.897	-0.033	564.728
12601	339.001	241.8410963	-268.381	-207.107	0.040	0.057	-268.341	-207.050	472497.524	524105.8630	564.103	-0.026	563.923
12392	223.259	284.7485947	-52.976	-216.883	0.027	0.038	-52.949	-216.845	472444.575	523889.018	568.369	-0.017	567.897
13002	302.368	225.0726709	-279.219	-116.030	0.036	0.051	-279.183	-115.979	472165.392	523773.039	579.291	-0.023	579.045
13156	99.390	252.925957	-66.976	-73.434	0.012	0.017	-66.964	-73.417	472098.428	523699.622	579.919	-0.008	579.665
13155		319.2968048	26.391	-84.385	0.011	0.015	26.402	-84.370	472124.83	523615.252	582.650	-0.007	582.39
13294	129.295	284.3368329	-31.491	-125.402	0.015	0.022	-31.476	-125.380	472093.354	523489.872	589.042	-0.010	588.772
13461	117.182	326.3387759	47.110	-107.295	0.014	0.020	47.124	-107.275	472140.478	523382.597	594.355	-0.009	594.076
13939	92.269	310.0845156	14.555	-2.984	0.008	0.011	14.566	-2.976	472152.068	523227.567	594.354	-0.007	594.068
13937	64.012	297.0316264	-2.984	-63.943	0.008	0.011	-2.976	-63.932	472147.362	523291.499	591.749	-0.005	591.458
13935	98.284	296.9429861	-4.718	-96.171	0.012	0.017	-4.706	-96.154	472157.288	523048.422	586.512	-0.008	586.213
14003	81.609	307.7546513	9.916	-81.005	0.010	0.014	9.926	-80.991	472157.288	522953.552	590.976	-0.006	590.671
14034	100.830	321.9664719	34.105	-94.887	0.012	0.017	34.117	-94.870	472191.405	522953.552	601.492	-0.008	601.179
14035	106.004	306.0895583	10.124	-105.520	0.013	0.018	10.137	-105.502	472201.542	522848.05	600.685	-0.008	600.364
14119	167.510	320.5268958	53.080	-158.877	0.020	0.028	53.100	-158.849	472254.642	522689.201	587.345	-0.013	587.011
14568	150.464	291.7031922	-19.554	-149.188	0.018	0.025	-19.536	-149.163	472235.106	522540.038	579.356	-0.012	579.011
14878	185.190	315.6336349	45.022	-179.634	0.022	0.031	45.044	-179.603	472280.15	522360.435	598.523	-0.014	598.164
332.950	377.6268116		312.599	-114.617	0.040	0.056	312.639	-114.561	472592.789	522245.874	609.710	-0.026	609.325
Σ Idist.			IdifNord prov.	IdifEst prov.	Σ	Σ	IdifNord just	IdifEst just				Σ	
5023.993			-1706.191	-3770.283	0.599	0.846	-1705.592	-3769.437				-0.385	

εN=

-0.599 m

εE=

-0.846 m

ε (eroarea totala lineara a capatului drumului)

1.037 m

T (toleranta extravian)

6.089 m

ε<sub>n</sub>(eroare de inchidere)

0.385 m

T (toleranta de inchidere)

0.448 m



**COMPENSARE CLASICĂ DRUMUIRE SPRIJINITĂ LA CAPETE - TRONSON 8**

Stati [numar]	Dist oriz. comp. [m]	Orientare comp. [g c cc]	Dif. Prov. Nord [m]	Dif. Prov. Est [m]	Corectie Nord [m]	Corectie Est [m]	Dif. Comp. Nord [m]	Dif. Comp. Est [m]	Coord. Comp. Nord [m]	Coord. Comp. Est [m]	Hprov. [m]	Corectia [m]	Hcomp. [m]
(TPA332)14924													
(TPA331)14923													
14878	332.912	177.6141	-312.541	114.666	-0.098	-0.105	-312.639	114.561	472789.655	522138.397	615.291		615.291
15228	89.665	331.1023	42.084	-79.176	-0.026	-0.028	42.058	-79.204	472592.789	522245.874	609.325		609.325
15227	67.215	317.0122	17.749	-64.830	-0.020	-0.021	17.729	-64.851	472280.150	522360.435	598.188	-0.024	598.164
15270	82.938	313.9300	18.003	-80.961	-0.024	-0.026	17.979	-80.987	472322.208	522281.231	597.214	-0.006	597.184
15478	72.932	322.9590	25.735	-68.240	-0.021	-0.023	25.714	-68.263	472339.937	522216.380	593.744	-0.005	593.709
15480	55.855	305.5114	4.829	-55.645	-0.016	-0.018	4.813	-55.663	472357.916	522135.393	590.608	-0.006	590.567
15550	53.843	333.3106	26.905	-46.639	-0.016	-0.017	26.889	-46.656	472388.443	522011.467	607.206	-0.004	607.156
15549	49.831	325.9629	19.764	-45.744	-0.015	-0.016	19.749	-45.760	472415.332	521964.811	610.363	-0.004	610.309
15580	114.264	366.2376	98.569	-57.798	-0.034	-0.036	98.535	-57.834	472435.081	521919.051	611.898	-0.004	611.840
15582	125.039	329.6361	56.129	-111.733	-0.037	-0.040	56.092	-111.773	472533.616	521861.217	617.336	-0.008	617.270
(TPA334)15584	116.553	362.3938	96.802	-64.915	-0.034	-0.037	96.768	-64.952	472589.708	521749.444	616.467	-0.009	616.392
TPA333									472686.476	521684.492	609.294	-0.008	609.211
	$\Sigma$ dist.		$\Sigma$ difNord prov.	$\Sigma$ difEst prov.	$\Sigma$ corectie Nord	$\Sigma$ corectie Est			$\Sigma$ difNord just	$\Sigma$ difEst just		$\Sigma$ corectia	
	1161.048		94.029	-561.015	-0.342	-0.367			93.687	-561.382		-0.083	

$\epsilon N = 0.342$  m

$\epsilon E = 0.367$  m

$\epsilon$ (eroarea totala lineara a capatului drumuirii)

$T$ (toleranta extravilan)

$\epsilon_k$ (eroare de inchidere)

0.083 m

$T$ (toleranta de inchidere)

0.216 m



# **MĂSURĂTORI GPS**



***NIB Geo-Nav SRL***  
***EXECUTANT***

***Top Point SRL***  
***BENEFICIAR***

**Retea planimetrica de sprijin**  
**Autostrada Transilvania**  
**Sectiunea 1 (Cristian – Fagaras)**  
**Brasov-Cluj-Bors**  
**Km 0+000 – Km 24+000**

**- 2008-**



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## 1. Tema lucrării

Prezenta lucrare are ca obiect realizarea rețelei geodezice de sprijin în zona autostrazii , constând în determinarea poziției planimetrice și altimetrice a 21 puncte noi. Referința planimetrică trebuia asigurată în planul de proiecție Stereografic 1970, iar cea altimetrică în sistemul de referință Marea Neagră 1975.

Pentru a asigura sistemul de referință unitar necesar măsurătorilor topografice în zona, care urmează să fie executate, era necesară realizarea unei rețele geodezice de sprijin corespunzătoare cerințelor de precizie solicitate de beneficiar.

## 2. Proiectul Rețelei Geodezice de Sprijin

### 2.1 Concepția generală

La proiectarea rețelei de sprijin s-a urmărit asigurarea a două legături la punctele vechi determinate în sistemul Stereografic 1970.

În acest scop, s-au prevăzut grupuri de două puncte cu vizibilitate între ele (figura 1.1), care să poată constitui baze de plecare și, respectiv, de închidere ale măsurătorilor, acest mod de proiectare a rețelei constituind o garanție a preciziei, toate bazele dintre puncte fiind măsurate direct.

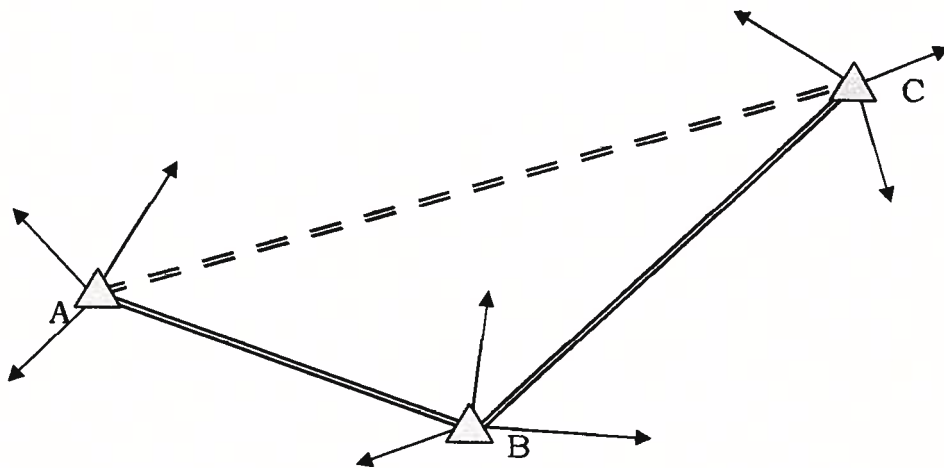


Figura 1.1.

## 2.2 Determinarea rețelei

Ca metodă de determinare se va utiliza tehnologia GPS, având în vedere avantajele acesteia:

- ↳ nu necesită vizibilitate directă între punctele rețelei, în special pentru cele îndepărtate, care constituie baza de integrare în rețele deja existente, eliminând astfel necesitatea construcțiilor de semnale și a măsurătorilor suplimentare;
- ↳ dependența extrem de scăzută a preciziei de poziționare față de geometria rețelei;
- ↳ precizia superioară a măsurătorilor clasice, în condițiile respectării perioadelor de măsurare (durată suficientă de staționare în punct, asigurarea vizibilității către un număr suficient de sateliți dispuși corespunzător ș.a.).

Pentru încadrarea în rețeaua geodezică națională și cea ETRS89, în proiectul rețelei s-a estimat că se vor folosi datele de la stația permanentă Deva și punctul de ordin B BV05.

## 2.3 Materializarea punctelor

Ținând cont de specificul prezentei lucrări, în special de faptul că la efectuarea măsurătorilor se utilizează tehnologie GPS, s-au folosit pentru materializare picheti metalici.

## 2.4 Propuneri privind efectuarea și prelucrarea observațiilor

Ca metodă de măsurare se va utiliza metoda statică, singura care asigură preciziile solicitate la realizarea rețelelor geodezice de sprijin. Este cea mai des utilizată metodă de măsurare pentru realizarea rețelelor de sprijin. În cadrul acestei metode receptoarele ocupă punctele de stație pentru intervale de timp (*sesiuni*) cu durată prestabilită în funcție de lungimea bazei care trebuie măsurată. Între *sesiuni*, cel puțin un receptor, dar de preferință două receptoare vor rămâne în aceleași puncte pentru legătură, iar celelalte se vor deplasa în alte puncte.

Măsurătorile vor fi efectuate cu 8 receptoare: un receptor L<sub>1,2</sub> Z-MAX de tipul Ashtech, două receptoare Trimble L<sub>1,2</sub> 4800, patru receptoare Trimble L<sub>1,2</sub> 4700 și un receptor de tip TRIMBLE 4400 – L<sub>1,2</sub>.

Prelucrarea măsurătorilor se va realiza cu Softul GPSurvey al firmei Trimble.

Integrarea rețelei GPS în rețeaua geodezică de stat se va realiza cu program propriu de transformare de pe elipsoid în planul de proiecție.

## 2.5 Recunoașterea terenului și definitivarea proiectului

În vederea realizării lucrării s-au procurat hărți existente ale zonei și coordonatele punctelor de ordin superior din zona.

În urma recunoașterii terenului, s-a considerat că cele 21 puncte care formează noua rețea geodezică de sprijin pentru zona dată, asigură necesarul optim de puncte pentru viitoarele lucrări.

Pentru punctele noi s-au căutat amplasamente care să asigure condiții corespunzătoare pentru viitoarele măsurători cu echipamente GPS și convenționale. S-a urmărit în special:

- să nu existe obstrucții peste elevația de 15° în jurul punctului;
- acces cât mai ușor la puncte;
- să nu existe stații de emisie puternice la distanță mai mică de 200 m;
- să nu existe generatori de câmpuri magnetice la distanța mai mică de 50 m;

### 3. Programul de observații

Pornind de la faptul că măsurătorile vor fi executate cu cinci receptoare, iar rețeaua este formată din 21 puncte noi și 2 puncte vechi, s-a efectuat proiectarea sesiunilor de observație, rezultând 8 sesiuni. În aceste sesiuni vor fi măsurate 66 baze GPS, ceea ce va sigura o redundanță foarte bună în rețea. Practic fiecare punct va fi determinat din minim 3 vectori.

Programarea sesiunilor s-a efectuat cu programul *Quick Plan* al firmei Trimble, urmărindu-se:

- găsirea ferestrei optime de observație în cursul unei zile în intervalul 7,00 – 21,00;
- să fie disponibili minimum 5 sateliți în timpul unei sesiuni de lucru;
- valoarea PDOP ca o măsură a preciziei proiectate să fie mai mic de 4;
- timpul de deplasare între puncte între sesiuni să fie minim.
- programarea sesiunilor s-a efectuat pornind de la relația:

$$S = \frac{p - n}{r - n} \quad \text{în care:}$$

- S este numărul proiectat de sesiuni;
- n = 2 este numărul punctelor de legătură între sesiuni;
- p = 7 este numărul punctelor ce urmează a fi staționate;
- r = 5 este numărul de receptoare ce urmează să participe la campania de măsurători.

## 4. Realizarea Rețelei Geodezice de Sprijin

### 4.1 Materializarea punctelor rețelei geodezice de sprijin

Rețeaua geodezică de sprijin a zonei este constituită din 21 puncte noi, materializate prin borne beton tip Feno în conformitate cu proiectul întocmit.

### 4.2 Efectuarea măsurătorilor

Măsurătorile au fost efectuate cu 8 receptoare L1,2 în data de 14 martie 2008. Ca metodă de lucru s-a adoptat metoda statică de măsurare, cunoscut fiind, că aceasta oferă și preciziile cele mai ridicate. În conformitate cu programarea proiectată, au fost realizate 8 sesiuni.

Durata unei sesiuni de observație a variat în funcție de lungimea bazei între 30 de minute și 240 de minute.

Conform planului de observație întocmit și distribuit la fiecare echipă, receptoarele au fost conectate la antene și la sursa de alimentare, astfel încât înregistrările să fie executate simultan în câte 6 puncte staționate.

La începutul fiecărei sesiuni s-a măsurat înălțimea antenei în stație, în trei puncte caracteristice ale platformei antenei. Ecartul maxim între valorile citite nu trebuia să depășească 1mm, după care se va lua în calcul media celor trei determinări și s-a înregistrat în foaia de observație această medie.

În timpul înregistrărilor operatorii au urmărit continuu starea de recepție a semnalelor. S-a completat carnetul de teren, înregistrându-se:

- denumirea stației;
- codul punctului;
- numărul sau simbolul sesiunii de lucru;
- data când s-au făcut înregistrările;
- numele operatorului;
- înălțimea antenei la începutul și sfârșitul sesiunii de lucru;
- ora de start și de stop a sesiunii, s.a.

Intervalul dintre epocile de înregistrare a fost stabilit la 15 secunde pentru fiecare receptor, astfel că într-o sesiune de o oră se obțineau 240 de înregistrări la fiecare receptor.

În timpul campaniei G.P.S. s-au măsurat 66 baze GPS pentru determinarea a 21 puncte noi, asigurându-se astfel o redundanță foarte bună în rețea.

La sfârșitul celor două zile de lucru, fișierele din receptoare au fost descărcate pe calculator, iar pentru o siguranță deplină a datelor, s-a realizat un *back-up* pe CD.

### 4.3 Procesarea datelor GPS

Fișierele cu datele înregistrate în fiecare zi de lucru sunt grupate în subdirectoare. S-a putut astfel urmări corectitudinea fișierelor transferate și integritatea acestora.

Într-o primă fază au fost procesate datele prin modul diferențial oferit de softul GPSurvey, iar rezultatele obținute au fost analizate în fișierele *Solution*. Pentru a obține rezultate cât mai corecte și a asigura o stabilitate și încredere în soluții, au fost adopte diferite strategii ca:

- eliminarea sateliților cu înregistrări sub 25% din numărul maxim de înregistrări ale sesiunii;
- eliminarea sateliților cu discontinuități multiple în înregistrări;
- stabilirea judicioasă a epocii de început și sfârșit de înregistrare;
- ridicarea unghiului de elevație de la care datele să fie preluate în procesare, când apăreau fenomene de "*multi path*";

Toate acestea au fost introduse ca opțiuni noi în procesare și s-a reluat prelucrarea. Au fost reținute doar bazele procesate, la care soluția a fost fixată.

### 4.4 Compensarea măsurărilor efectuate în rețea

Rețeaua compusă din cele 23 puncte (21 puncte *noi* și 2 puncte *vechi*) a fost prelucrată ca o *rețea spațială (tridimensională-3D) constrânsă* pe coordonatele celor trei stații GPS permanente, în care s-au determinat coordonatele elipsoidale ale punctelor rețelei. Precizia rețelei realizate prin măsurători GPS poate fi urmărită în Anexa 2.

Coordonatele elipsoidale în sistemul ETRS89 compensate, constituie datele de intrare pentru calculele de integrare planimetrică a rețelei de sprijin în sistemul național de proiecție.

### 4.5 Încadrarea rețelei GPS în rețeaua Geodezică de Stat

Transformarea coordonatelor din sistemul ETRS89 în planul proiecției Streografice 1970 s-a realizat pornind de la coordonatele determinate din prelucrarea măsurărilor GPS și luând ca puncte comune pe cele din rețeaua geodezică de stat.

Integrarea s-a realizat folosind programul TRANSDAT.

## 5. Concluzii

Rețeaua geodezică de sprijin pentru zona A3 a fost realizată ca precizie conform normelor în vigoare.

Realizarea acestei rețele de sprijin la parametrii de calitate și precizie ridicată, va asigura și calitatea viitoarelor lucrări topografice care se vor desfășura în arealul A3.

Calitatea ridicată a rețelei de sprijin se datorează următoarelor:

- folosirea noii tehnologii, tehnologia GPS, în realizarea rețelei de sprijin;
- folosirea unor programe de prelucrare testate în multe alte lucrări, care asigură siguranță și încredere;
- s-a asigurat o redundanță foarte bună în rețea – 66 baze măsurate pentru determinarea a 21 puncte noi.



**6.Anexe**

## **Anexa 6.1**

# **REȚEA GEODEZICĂ DE SPRIJIN A3**

**REZULTATELE PRELUCRĂRII VECTORILOR GPS**

From Station Short Name	To Station Short Name	Solution Type	Slope	Ratio	Reference Variance	Entered Ant. Ht. (From)	Entered Ant. Ht. (To)
BV05	FIX1	Iono free fixed	24761.001	10.2	2.332	1.842	1.343
BV05	km204	Iono free fixed	23491.520	13.2	2.036	1.842	1.558
BV05	S3	Iono free fixed	12525.118	7.3	2.857	1.842	1.831
BV05	tpa317	L1 fixed	5706.715	4.0	14.098	1.842	1.666
BV05	tpa318	Iono free fixed	6666.972	9.4	2.866	1.842	1.391
BV05	tpa319	L1 fixed	9065.762	4.0	10.219	1.842	1.629
BV05	tpa320	Iono free fixed	9147.471	6.6	4.403	1.842	1.454
BV05	tpa321	Iono free fixed	9481.572	2.1	6.667	1.842	1.652
BV05	tpa322	Iono free fixed	9554.521	11.0	4.267	1.842	1.392
BV05	tpa323	L1 fixed	12819.722	5.4	5.494	1.842	2.102
BV05	tpa325	Iono free fixed	16959.606	8.7	7.608	1.842	1.559
BV05	tpa326	Iono free fixed	16389.366	11.2	3.523	1.842	1.470
BV05	tpa327	Iono free fixed	19184.916	16.9	2.027	1.842	1.550
BV05	tpa328	L1 fixed	19089.373	3.2	8.898	1.842	2.102
BV05	tpa329	Iono free fixed	21060.215	14.8	2.412	1.842	1.404
BV05	tpa330	L1 fixed	21051.022	2.7	12.938	1.842	1.638
BV05	tpa331	L1 fixed	23347.411	7.7	9.448	1.842	2.102
BV05	tpa332	Iono free fixed	23534.484	2.7	14.115	1.842	1.544
BV05	tpa333	Iono free fixed	23980.902	7.3	2.575	1.842	1.429
BV05	tpa334	L1 fixed	23888.652	10.7	7.007	1.842	1.486
BV05	tpa335	Iono free fixed	24731.495	10.7	3.993	1.842	1.543
BV05	tpa336	Iono free fixed	24844.266	19.7	3.150	1.842	1.285
FIX1	km204	L1 fixed	1644.731	13.1	1.234	1.343	1.558
FIX1	S3	Iono free fixed	14242.155	11.8	1.469	1.343	1.831
FIX1	tpa317	L1 fixed	19055.816	4.6	11.100	1.343	1.666
FIX1	tpa318	Iono free fixed	18096.291	37.0	0.832	1.343	1.391
FIX1	tpa319	L1 fixed	16015.113	3.5	10.628	1.343	1.629
FIX1	tpa320	Iono free fixed	15979.698	11.9	2.310	1.343	1.454
FIX1	tpa321	Iono free fixed	17252.234	2.3	5.684	1.343	1.652
FIX1	tpa322	Iono free float	17633.209		2.875	1.343	1.392
FIX1	tpa323	L1 fixed	14212.148	7.7	3.574	1.343	2.102
FIX1	tpa325	Iono free fixed	9803.215	10.6	6.659	1.343	1.559
FIX1	tpa326	Iono free fixed	10705.092	12.4	2.300	1.343	1.470
FIX1	tpa327	Iono free fixed	8541.293	37.0	0.782	1.343	1.550
FIX1	tpa328	L1 fixed	8772.274	5.3	5.412	1.343	2.102
FIX1	tpa329	Iono free fixed	5782.297	30.6	0.836	1.343	1.404
FIX1	tpa330	L1 fixed	6079.310	25.9	5.951	1.343	1.638
FIX1	tpa331	L1 fixed	1699.980	40.8	1.998	1.343	2.102
FIX1	tpa332	L1 fixed	1631.121	3.6	20.685	1.343	1.544
FIX1	tpa333	L1 fixed	985.345	27.9	2.350	1.343	1.429
FIX1	tpa334	L1 fixed	1166.083	57.7	1.285	1.343	1.486
FIX1	tpa335	L1 fixed	36.669	34.6	7.001	1.343	1.543
FIX1	tpa336	L1 fixed	84.970	11.4	3.199	1.343	1.285
km204	tpa321	Iono free fixed	15742.090	2.0	9.562	1.558	1.652
S3	tpa319	L1 fixed	4083.136	3.3	6.735	1.831	1.629



25° 32' 56.279842" E  
585.362

Y 1926244.115  
Z 4538862.196

To Station:  
Data file: 69060740.RNX  
Antenna Height (meters): 1.343 True Vertical

WGS 84 Position:  
45° 45' 03.290648" N X 4032175.774  
25° 15' 45.952534" E Y 1902795.790  
575.869 Z 4546384.764

Start Time: 14/03/08 09:15:00.00 GPS (1470 465300.00)  
Stop Time: 14/03/08 15:33:00.00 GPS (1470 487980.00)  
Occupation Time 06:18:00.00 15.00

Solution Type: Iono free fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris:  
Met Data: Broadcast  
Baseline Slope Distance 24761.001 Std. Dev. (meters): 0.000628

Normal Section Azimuth: 295° 54' 48.640735" Forward  
Vertical Angle: -0° 07' 58.986878" Backward

Baseline Components (meters): dx 2587.311 dy -23448.325 dz 7522.568  
Standard Deviations (meters): 0.003643 0.001885 0.004033  
dh 10820.872 de -22271.340 du -57.500  
0.000664 0.000561 0.005686

Aposteriori Covariance Matrix:  
1.326940E-005  
6.481561E-006  
1.430512E-005 3.551599E-006  
7.061021E-006 1.626650E-005

Variance Ratio Cutoff: 1.5  
Reference Variance: 2.332

Observable Count/Rejected RMS:  
Iono free phase 8080/11 0.017

Project Name: gabirad  
Processed: 15 March 2008 8:00  
Solution Output File (SSF): WAVE 2.35  
00006876.SSF



Observable Count/Rejected RMS: Iono free phase 734/3 0.017

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF): 00006892.SSF

From Station: BV05  
Data file: BV050741.RNX  
Antenna Height (meters): 1.842 True Vertical  
Positioning Quality: Point Positioning

WGS 84 Position: 45° 39' 14.122717" N 4029588.462 X  
25° 32' 56.279842" E 1926244.115 Y  
585.362 Z 4538862.196

To Station: s3  
Data file: 17840742.RNX  
Antenna Height (meters): 1.831 True Vertical

WGS 84 Position: 45° 44' 23.783116" N 4026893.374 X  
25° 26' 42.341095" E 1915994.976 Y  
582.580 Z 4545538.291

Start Time: 14/03/08 12:17:45.00 GPS (1470 476265.00)  
Stop Time: 14/03/08 13:05:30.00 GPS (1470 479130.00)  
Occupation Time 00:47:45.00 15.00

Solution Type: Iono free fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 12525.118 Std. Dev. (meters): 0.002378

Normal Section Azimuth: 319° 47' 56.220704" Forward  
Vertical Angle: -0° 04' 08.363546" Backward  
139° 43' 28.609482" 139° 43' 28.609482"  
-0° 02' 36.733323" -0° 02' 36.733323"

Baseline Components (meters): dx -2695.089 dy -10249.139 dz 6676.095  
Standard Deviations (meters): 0.003171 0.002684 0.004502

Baseline Components (meters): dn 9566.481 de -8084.603 du -15.081  
Standard Deviations (meters): 0.002429 0.001692 0.005363

dh -2.782  
0.005363

Aposteriori Covariance Matrix:

1.005623E-005  
6.257548E-006  
9.650594E-006

7.202712E-006  
6.166882E-006

2.026429E-005

Variance Ratio Cutoff:  
Reference Variance:

7.3 1.5  
2.857

Observable Count/Rejected RMS:

Iono free phase 1058/1 0.021

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35  
00006860.SSF

Solution Output File (SSF):

From Station:  
Data file:

BV05  
BV050741.RNX  
1.842 True Vertical  
Point Positioning

Antenna Height (meters):  
Position Quality:

WGS 84 Position:

45° 39' 14.122717" N 4029588.462  
25° 32' 56.279842" E 1926244.115  
585.362 4538862.196

To Station:  
Data file:

tpa317  
33440743.RNX  
1.666 True Vertical

Antenna Height (meters):

WGS 84 Position:

45° 40' 31.462986" N 4030284.394  
25° 28' 56.868897" E 1920833.087  
592.869 4540536.427

Start Time:  
Stop Time:  
Occupation Time

14/03/08 14:30:30.00 GPS (1470 484230.00)  
14/03/08 15:29:30.00 GPS (1470 487770.00)  
00:59:00.00 15.00

Meas. Interval (seconds):

Solution Type:  
Solution Acceptability:

L1 fixed double difference  
Passed ratio test

Ephemeris:  
Met Data:  
Baseline Slope Distance

Broadcast  
Standard  
5706.715  
Std. Dev. (meters):  
0.001292

Normal Section Azimuth:  
Vertical Angle:

294° 45' 38.625374" Forward  
0° 02' 59.167213" Backward  
114° 42' 47.383537"  
-0° 06' 03.491394"

Baseline Components (meters):

dx 695.930 dy -5411.028 dz 1674.231



Standard Deviations (meters):

dn	2390.141	de	-5182.065	du	4.957
	0.001578		0.001584		0.004331
				dh	7.507
					0.004331

Aposteriori Covariance Matrix:

	1.450244E-005				
	2.314893E-006				
	8.236284E-006				
		1.980152E-006			
		1.810076E-006			7.272997E-006

Variance Ratio Cutoff: 1.5  
 Reference Variance: 14.098

Observable Count/Rejected RMS: 1103/0 0.012

Project Name: gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00006864.SSF

From Station: BV05  
 Data file: BV050741.RNX  
 Antenna Height (meters): 1.842 True Vertical  
 Position Quality: Point Positioning  
 WGS 84 Position: 45° 39' 14.122717" N 25° 32' 56.279842" E 585.362

To Station: tpa318  
 Data file: 76600743.RNX  
 Antenna Height (meters): 1.391 True Vertical  
 WGS 84 Position: 45° 40' 52.654962" N 25° 28' 22.243979" E 593.707

Start Time: 14/03/08 14:20:00.00 GPS (1470 483600.00)  
 Stop Time: 14/03/08 15:17:45.00 GPS (1470 487065.00)  
 Occupation Time 00:57:45.00 15.00

Solution Type: Ionosphere free fixed double difference  
 Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
 Met Data: Standard

Baseline Slope Distance      Std. Dev. (meters):      6666.972      0.001884

Normal Section Azimuth:      297° 10' 39.455624"      Forward  
Vertical Angle:                0° 02' 30.482326"      Backward

117° 07' 23.438002"      dz  
-0° 06' 05.845763"      du

Baseline Components (meters):      dx      596.225      dy      -6288.687      dz      2132.004  
Standard Deviations (meters):      0.006737      0.002269      0.004221

dn      3045.142      de      -5930.902      du      4.864  
0.002849      0.002446      0.007366

dh      8.344      0.007366

Aposteriori Covariance Matrix:

4.538831E-005      1.5  
8.545991E-006      5.148368E-006  
2.344410E-005      5.161253E-006      1.781553E-005

Variance Ratio      Cutoff:      1.5  
Reference Variance:      2.866

Observable      Count/Rejected      RMS:      1013/0      0.021

Project Name:      gabirad  
Processed:      15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF):      00006884.SSF

From Station:      BV05  
Data file:      BV050741.RNX  
Antenna Height (meters):      1.842 True Vertical  
Position Quality:      Point Positioning

WGS 84 Position:      45° 39' 14.122717" N      X      4029588.462  
25° 32' 56.279842" E      Y      1926244.115  
585.362      Z      4538862.196

To Station:      tpa319  
Data file:      33440742.RNX  
Antenna Height (meters):      1.629 True Vertical

WGS 84 Position:      45° 42' 15.225144" N      X      4029049.018  
25° 27' 26.584009" E      Y      1918080.599  
583.659      Z      4542767.838

Start Time:      14/03/08 12:36:15.00 GPS      (1470 477375.00)  
Stop Time:      14/03/08 13:33:00.00 GPS      (1470 480780.00)

Occupation Time      Meas. Interval (seconds):      00:56:45.00      15.00

Solution Type:      L1 fixed double difference  
Solution Acceptability:      Passed ratio test

Ephemeris:  
Met Data:      Broadcast  
Baseline Slope Distance      Std. Dev. (meters):      9065.762      0.001300

Normal Section Azimuth:      Forward      Backward  
Vertical Angle:      308° 06' 57.213089"      -0° 03' 05.262706"      128° 03' 01.336324"      -0° 01' 47.754914"

Baseline Components (meters):      dx      dy      dz      3905.642  
Standard Deviations (meters):      0.001574      0.001363      0.002541

Baseline Components (meters):      dn      de      du      -8.143  
Standard Deviations (meters):      0.001394      0.000939      0.002823

Baseline Components (meters):      dh      dh      dh      -1.703  
Standard Deviations (meters):      0.001394      0.000939      0.002823

Aposteriori Covariance Matrix:  
2.477210E-006  
1.401796E-006      1.857407E-006  
2.662713E-006      1.335477E-006      6.456733E-006

Variance Ratio      Cutoff:      4.0      1.5  
Reference Variance:      10.219

Observable      Count/Rejected      RMS:      L1 phase      1130/2      0.011

Project Name:      gabirad  
Processed:      15 March 2008 8:00  
Solution Output File (SSF):      WAVE 2.35  
00006880.SSF

From Station:      BV05  
Data file:      BV050741.RNX  
Antenna Height (meters):      1.842 True Vertical  
Position Quality:      Point Positioning

WGS 84 Position:      45° 39' 14.122717" N      25° 32' 56.279842" E      585.362  
4029588.462  
1926244.115  
4538862.196

To Station:      tpa320  
Data file:      76600742.RNX  
Antenna Height (meters):      1.454 True Vertical

WGS 84 Position:

45° 42' 19.989852" N  
25° 27' 27.159331" E  
583.166

X 4028948.281  
Y 1918046.426  
Z 4542870.225

Start Time:

Stop Time: 14/03/08 12:46:00.00 GPS (1470 477960.00)  
Occupation Time 14/03/08 13:39:45.00 GPS (1470 481185.00)  
Meas. Interval (seconds): 00:53:45.00 15.00

Solution Type:

Iono free fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris:

Met Data:  
Broadcast Standard  
Baseline Slope Distance 9147.471 Std. Dev. (meters): 0.003059

Normal Section Azimuth:

Vertical Angle: 308° 53' 22.578556" Forward  
-0° 03' 17.365572" Backward

Baseline Components (meters):

Standard Deviations (meters):  
dx -640.181 dy -8197.689 dz 4008.030  
0.003419 0.003061 0.004873

dn

5742.980 de -7119.996 du -8.753  
0.002942 0.002299 0.005557

dh

-2.197  
0.005557

Aposteriori Covariance Matrix:

1.169204E-005  
5.805553E-006 9.372141E-006  
1.046728E-005 3.659975E-006

Variance Ratio

6.6 1.5

Reference Variance:

4.403

Observable Count/Rejected RMS:

Iono free phase 1091/0 0.026

Project Name:

gabirad  
15 March 2008 8:00

Processed:

WAVE 2.35

Solution Output File (SSF):

00006868.SSF

From Station:

BV05

Data file:

BV050741.RNX

Antenna Height (meters):

1.842 True Vertical

Position Quality:

Point Positioning

WGS 84 Position:

45° 39' 14.122717" N X 4029588.462  
25° 32' 56.279842" E Y 1926244.115  
585.362 Z 4538862.196

To Station:

Data file: tpa321  
Antenna Height (meters): 16240742.RNX  
1.652 True Vertical

WGS 84 Position:

45° 43' 29.296528" N X 4026762.544  
25° 28' 52.523857" E Y 1919050.482  
569.420 Z 4544354.557

Start Time:

Stop Time: 14/03/08 13:39:00.00 GPS (1470 481140.00)  
Occupation Time 14/03/08 14:37:15.00 GPS (1470 484635.00)  
00:58:15.00 15.00

Solution Type:  
Solution Acceptability:

Iono free fixed double difference  
Passed ratio test

Ephemeris:  
Met Data:

Broadcast Standard  
9481.572 0.003206

Std. Dev. (meters):

Normal Section Azimuth:  
Vertical Angle:

Forward  
326° 13' 20.920856" dz 146° 10' 26.498815"  
-0° 08' 20.191174" 0° 03' 13.422345"

Baseline Components (meters):  
Standard Deviations (meters):

dx -2825.918 dy -7193.633 dz 5492.361  
0.006272 0.003224 0.004737  
dn 7881.085 de -5271.450 du -22.993  
0.003279 0.003760 0.006876

Aposteriori Covariance Matrix:

3.933706E-005  
2.105658E-006  
1.999155E-005  
1.039425E-005  
8.834093E-007  
2.244141E-005

Variance Ratio Cutoff:  
Reference Variance:

2.1  
6.667  
1.5

Observable Count/Rejected RMS:

Iono free phase 1033/0 0.035

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35

Solution Output File (SSF):

00006872.SSF

From Station:

Data file: BV050741.RNX  
Antenna Height (meters): 1.842  
Position Quality: True Vertical Point Positioning

WGS 84 Position:

45° 39' 14.122717" N X 4029588.462  
25° 32' 56.279842" E Y 1926244.115  
585.362 Z 4538862.196

To Station:

Data file: tpa322  
Antenna Height (meters): 76580742.RNX  
1.392 True Vertical

WGS 84 Position:

45° 43' 41.106132" N X 4026333.815  
25° 29' 13.051581" E Y 1919337.899  
566.178 Z 4544606.786

Start Time:

Stop Time: 14/03/08 13:37:30.00 GPS (1470 481050.00)  
Occupation Time: 14/03/08 14:41:30.00 GPS (1470 484890.00)  
01:04:00.00 15.00

Solution Type:

Solution Acceptability: Iono free fixed double difference  
Passed ratio test

Ephemeris:

Met Data: Broadcast  
Baseline Slope Distance Std. Dev. (meters): 9554.521 0.002491

Normal Section Azimuth:

Vertical Angle: 329° 39' 11.618230" Forward  
-0° 09' 28.741591" Backward

Baseline Components (meters):

Standard Deviations (meters): dx -3254.647 dy -6906.216 dz 5744.590  
0.004343 0.002455 0.003605

Standard Deviations (meters):

dn 8245.362 de -4827.234 du -26.345  
0.002471 0.002635 0.004984

dh

-19.184  
0.004984

Aposteriori Covariance Matrix:

1.886570E-005  
1.889686E-006 6.025572E-006  
1.010181E-005 7.172218E-007 1.299450E-005

Variance Ratio

11.0

Cutoff: 1.5

Reference Variance: 4.267  
Observable Count/Rejected RMS: Iono free phase 1143/4 0.025

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF): 00006888.SSF

From Station: BV05  
Data file: BV050741.RNX  
Antenna Height (meters): 1.842 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 39' 14.122717" N X 4029588.462  
25° 32' 56.279842" E Y 1926244.115  
585.362 Z 4538862.196

To Station: tpa323  
Data file: 34380742.RNX  
Antenna Height (meters): 2.102 True Vertical

WGS 84 Position: 45° 44' 36.135622" N X 4026645.811  
25° 26' 42.250122" E Y 1915875.008  
579.815 Z 4545802.491

Start Time: 14/03/08 12:25:15.00 GPS (1470 476715.00)  
Stop Time: 14/03/08 13:07:45.00 GPS (1470 479265.00)  
Occupation Time 00:42:30.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 12819.722 Std. Dev. (meters): 0.001025

Normal Section Azimuth: 320° 53' 39.453717" Forward  
Vertical Angle: -0° 04' 56.575596" Backward  
140° 49' 11.769704"  
-0° 01' 58.075112"

Baseline Components (meters): dx -2942.652 dy -10369.107 dz 6940.296  
Standard Deviations (meters): 0.001330 0.001020 0.002125  
dn 9947.884 de -8086.071 du -18.433  
0.001115 0.000663 0.002376

dh -5.547

0.002376

Aposteriori Covariance Matrix:

1.767887E-006  
9.470680E-007  
1.906275E-006

1.041185E-006  
1.057688E-006

4.517110E-006

Variance Ratio Cutoff:  
Reference Variance:

5.4  
5.494  
1.5

Observable Count/Rejected RMS:

960/1  
0.007

Project Name:  
Processed:

gabirad  
15 March 2008 8:13  
WAVE 2.35  
00007188.SSF

Solution Output File (SSF):

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:

BV05  
BV050741.RNX  
1.842 True Vertical  
Point Positioning

WGS 84 Position:

45° 39' 14.122717" N X 4029588.462  
25° 32' 56.279842" E Y 1926244.115  
585.362 Z 4538862.196

To Station:  
Data file:  
Antenna Height (meters):

tpa325  
16240741.RNX  
1.559 True Vertical

WGS 84 Position:

45° 45' 25.292678" N X 4027563.449  
25° 23' 18.404500" E Y 1911432.500  
593.166 Z 4546871.168

Start Time:  
Stop Time:  
Occupation Time Meas. Interval (seconds):

14/03/08 12:04:45.00 GPS (1470 475485.00)  
14/03/08 13:06:45.00 GPS (1470 479205.00)  
01:02:00.00 15.00

Solution Type:  
Solution Acceptability:

Iono free fixed double difference  
Passed ratio test

Ephemeris:  
Met Data:  
Baseline Slope Distance

Broadcast  
Standard  
16959.606

Std. Dev. (meters):

0.005046

Normal Section Azimuth:  
Vertical Angle:

Forward  
312° 34' 11.685213"  
-0° 02' 59.239876"

Backward  
132° 27' 18.064758"  
-0° 06' 09.052673"



Baseline Components (meters):  
Standard Deviations (meters):

dx -2025.014 -14811.615 dz 8008.972  
0.008113 0.009160 0.013504

dn 11472.988 -12489.938 du -14.738  
0.005261 0.005217 0.016649

dh 7.804  
0.016643

Aposteriori Covariance Matrix:

6.582606E-005  
6.852081E-005 8.389991E-005  
8.863297E-005 1.023579E-004 1.823599E-004

Variance Ratio Cutoff:  
Reference Variance:

8.7 1.5  
7.608

Observable Count/Rejected RMS:

Iono free phase 972/0 0.033

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35  
00006900.SSF

Solution Output File (SSF):

From Station:  
Data file:

BV05  
BV050741.RNX  
1.842 True Vertical  
Point Positioning

Antenna Height (meters):  
Position Quality:

45° 39' 14.122717" N  
25° 32' 56.279842" E  
585.362

WGS 84 Position:

X 4029588.462  
Y 1926244.115  
Z 4538862.196

To Station:  
Data file:

tpa326  
76580741.RNX  
1.470 True Vertical

Antenna Height (meters):

WGS 84 Position:

X 4027095.316  
Y 1912202.257  
Z 4546938.196

Start Time:  
Stop Time:  
Occupation Time

14/03/08 12:03:30.00 GPS (1470 475410.00)  
14/03/08 13:02:30.00 GPS (1470 478950.00)  
00:59:00.00 15.00

Meas. Interval (seconds):

Solution Type:  
Solution Acceptability:

Iono free fixed double difference  
Passed ratio test

Ephemeris:

Broadcast

Met Data: Standard  
 Baseline Slope Distance Std. Dev. (meters): 16389.366 0.002208

Normal Section Azimuth: Forward  
 Vertical Angle: 314° 58' 39.153839" 134° 52' 15.207933" Backward  
 -0° 06' 17.250789" -0° 02' 32.680007"

Baseline Components (meters): dx -2493.146 dy -14041.858 dz 8075.999  
 Standard Deviations (meters): 0.003067 0.002458 0.004139  
 dn 11584.469 de -11593.554 du -29.976  
 0.002354 0.001575 0.004955

Aposteriori Covariance Matrix:  
 9.405041E-006  
 5.377615E-006 6.039574E-006  
 8.159944E-006 4.870888E-006 1.713409E-005

Variance Ratio Cutoff: 11.2 1.5  
 Reference Variance: 3.523

Observable Count/Rejected RMS: Iono free phase 1372/0 0.022

Project Name: gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00006912.SSF

From Station: BV05  
 Data file: BV050741.RNX  
 Antenna Height (meters): 1.842 True Vertical  
 Position Quality: Point Positioning

WGS 84 Position: 45° 39' 14.122717" N 4029588.462  
 25° 32' 56.279842" E 1926244.115  
 585.362 4538862.196

To Station: tpa327  
 Data file: 17840741.RNX  
 Antenna Height (meters): 1.550 True Vertical

WGS 84 Position: 45° 46' 17.244373" N 4027185.868  
 25° 22' 06.778890" E 1909540.167  
 589.031 4547987.252

Start Time: 14/03/08 11:04:45.00 GPS (1470 471885.00)

Stop Time: 14/03/08 11:57:30.00 GPS (1470 475050.00)  
Occupation Time 00:52:45.00 15.00

Meas. Interval (seconds):

Solution Type: Iono free fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 19184.916 Std. Dev. (meters): 0.002102

Normal Section Azimuth: Forward  
Vertical Angle: 312° 59' 05.723901" 132° 51' 20.779707"  
-0° 04' 30.679209" -0° 05' 49.570325"

Baseline Components (meters): dx -2402.595 dy -16703.948 dz 9125.057  
Standard Deviations (meters): 0.003635 0.002397 0.003073  
dn 13080.377 de -14034.389 du -25.176  
0.002217 0.001361 0.004652

dh 3.669  
0.004650

Aposteriori Covariance Matrix:  
1.321511E-005 5.746408E-006  
6.790047E-006 3.429986E-006  
7.727486E-006 9.446357E-006

Variance Ratio Cutoff: 1.5  
Reference Variance: 2.027

Observable Count/Rejected RMS: 1104/0 0.015

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF): 00006908.SSF

From Station: BV05  
Data file: BV050741.RNX  
Antenna Height (meters): 1.842 True Vertical  
Positioning: Point Positioning

WGS 84 Position: 45° 39' 14.122717" N X 4029588.462  
25° 32' 56.279842" E Y 1926244.115  
585.362 Z 4538862.196

To Station: tpa328  
Data file: 34380741.RNX

Antenna Height (meters):

2.102 True Vertical

WGS 84 Position:

45° 46' 20.139729" N X 4027034.763  
25° 22' 16.723537" E Y 1909706.332  
587.202 Z 4548048.299

Start Time:

14/03/08 11:12:15.00 GPS (1470 472335.00)

Stop Time:

14/03/08 11:53:00.00 GPS (1470 474780.00)

Occupation Time

00:40:45.00 15.00

Meas. Interval (seconds):

Solution Type:

L1 fixed double difference

Solution Acceptability:

Passed ratio test

Ephemeris:

Broadcast

Met Data:

Standard

Baseline Slope Distance

19089.373 Std. Dev. (meters): 0.001500

Normal Section Azimuth:

313° 37' 13.141467" Forward

Vertical Angle:

133° 29' 35.313093" Backward  
-0° 05' 28.466871"

Baseline Components (meters):

dx -2553.699 dy -16537.783 dz 9186.104  
0.002734 0.001813 0.002148

Standard Deviations (meters):

dn 13169.293 de -13819.304 du -26.720  
0.001536 0.000997 0.003468

Aposteriori Covariance Matrix:

7.477229E-006  
3.949484E-006 3.287955E-006  
4.410576E-006 2.121977E-006 4.615631E-006

Variance Ratio Cutoff:

3.2 1.5

Reference Variance:

8.898

Observable Count/Rejected

L1 phase 862/4 RMS:

Project Name:

gabirad 15 March 2008 8:00

Processed:

WAVE 2.35  
00006904.SSF

Solution Output File (SSF):

From Station:

BV05

Data file:

BV050741.RNX

Antenna Height (meters):

1.842 True Vertical

Position Quality:

Point Positioning

WGS 84 Position:

45° 39' 14.122717" N 4029588.462  
25° 32' 56.279842" E 1926244.115  
585.362 Z 4538862.196

To Station:

Data file: tpa329  
Antenna Height (meters): 76600741.RNX  
1.404 True Vertical

WGS 84 Position:

45° 46' 04.618174" N 4028621.582  
25° 19' 58.741984" E 1907158.863  
586.929 Z 4547713.803

Start Time:

Stop Time: 14/03/08 11:13:00.00 GPS (1470 472380.00)  
Occupation Time: 14/03/08 11:57:45.00 GPS (1470 475065.00)  
00:44:45.00 15.00

Meas. Interval (seconds):

Solution Type:

Solution Acceptability: Iono free fixed double difference  
Passed ratio test

Ephemeris:

Met Data: Broadcast  
Baseline Slope Distance 21060.215 Std. Dev. (meters): 0.002490

Normal Section Azimuth:

Vertical Angle: 307° 04' 42.483282" Forward  
-0° 05' 24.981009" Backward

Baseline Components (meters):

Standard Deviations (meters): dx -966.880 dy -19085.252 dz 8851.607  
0.004263 0.002959 0.003575

Apriori Covariance Matrix:

1.816976E-005  
1.007510E-005 8.755907E-006  
1.012595E-005 4.903798E-006

Variance Ratio Cutoff:

Reference Variance: 14.8  
2.412 1.5

Observable Count/Rejected RMS:

Iono free phase 938/0 0.018

Project Name:

Processed: gabirad  
15 March 2008 8:00

Solution Output File (SSF):  
WAVE 2.35  
00006916.SSF

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:  
BV05  
BV050741.RNX  
1.842 True Vertical  
Point Positioning

WGS 84 Position:  
45° 39' 14.122717" N  
25° 32' 56.279842" E  
585.362

To Station:  
Data file:  
Antenna Height (meters):  
tpa330  
33440741.RNX  
1.638 True Vertical

WGS 84 Position:  
45° 46' 13.361302" N  
25° 20' 08.827530" E  
582.026

Start Time:  
Stop Time:  
Occupation Time  
14/03/08 10:58:00.00 GPS  
14/03/08 12:06:30.00 GPS  
01:08:30.00

Meas. Interval (seconds):  
L1 fixed double difference  
Passed ratio test

Ephemeris:  
Met Data:  
Broadcast  
Standard  
Baseline Slope Distance  
21051.022

Std. Dev. (meters):  
0.001272

Normal Section Azimuth:  
Vertical Angle:  
308° 01' 20.141318"  
-0° 06' 12.887761"

Baseline Components (meters):  
Standard Deviations (meters):  
dx: -1238.060 dy -18972.510 dz 9036.405  
0.002221 0.001508 0.001900  
dn 12966.726 de -16583.368 du -38.056  
0.001338 0.000892 0.002869

dh -3.336  
0.002867

Posteriori Covariance Matrix:  
4.930770E-006  
2.534197E-006  
2.969302E-006  
2.273863E-006  
1.331284E-006  
3.609956E-006

Backward  
127° 52' 10.767198"  
-0° 05' 07.502443"  
dh

Variance Ratio Cutoff: 1.5  
Reference Variance: 12.938

Observable Count/Rejected RMS: 1507/9 0.012

Project Name: gabirad  
Processed: 15 March 2008 8:00  
Solution Output File (SSF): 00006936.SSF

From Station: BV05  
Data file: BV050741.RNX  
Antenna Height (meters): 1.842 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 39' 14.122717" N 4029588.462  
25° 32' 56.279842" E 1926244.115  
585.362 Z 4538862.196

To Station: tpa331  
Data file: 34380740.RNX  
Antenna Height (meters): 2.102 True Vertical

WGS 84 Position: 45° 45' 09.833280" N 4031370.511  
25° 17' 03.969782" E 1904280.502  
648.115 Z 4546577.477

Start Time: 14/03/08 09:33:00.00 GPS (1470 466380.00)  
Stop Time: 14/03/08 10:46:00.00 GPS (1470 470760.00)  
Occupation Time 01:13:00.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance Std. Dev. (meters): 23347.411 0.000883

Normal Section Azimuth: 298° 09' 23.478642" Forward  
Vertical Angle: 0° 02' 57.289685" Backward

Baseline Components (meters): dx 1782.049 dy -21963.614 dz 7715.281  
Standard Deviations (meters): dx 0.001800 dy 0.001084 dz 0.001697  
du 11017.216 de -20584.512 du 20.068  
0.000916 0.000891 0.002380

dh 62.753  
0.002380

Apriori Covariance Matrix:  
3.238980E-006  
9.843945E-007  
2.247964E-006  
1.175642E-006  
9.101277E-007  
2.880481E-006

Variance Ratio Cutoff: 1.5  
Reference Variance: 7.7  
9.448

Observable Count/Rejected RMS: 1635/13 0.010

Project Name: gabirad  
Processed: 15 March 2008 8:15  
WAVE 2.35  
Solution Output File (SSF): 00007196.SSF

From Station: BV05  
Data file: BV050741.RNX  
Antenna Height (meters): 1.842 True Vertical  
Positioning: Point Positioning

WGS 84 Position: 45° 39' 14.122717" N 4029588.462  
25° 32' 56.279842" E 1926244.115  
585.362 Z 4538862.196

To Station: tpa332  
Data file: 17840740.RNX  
Antenna Height (meters): 1.544 True Vertical

WGS 84 Position: 45° 45' 16.220602" N 4031292.223  
25° 16' 59.033916" E 1904125.530  
654.282 Z 4546719.505

Start Time: 14/03/08 09:42:00.00 GPS (1470 466920.00)  
Stop Time: 14/03/08 10:41:15.00 GPS (1470 470475.00)  
Occupation Time 00:59:15.00 15.00

Solution Type: Iono free fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance: 23534.484  
Std. Dev. (meters): 0.033107

Normal Section Azimuth: 298° 27' 31.652573" Forward  
Vertical Angle: 0° 03' 43.897514" Backward  
118° 16' 06.505526"  
-0° 16' 24.168230"



Baseline Components (meters):  
Standard Deviations (meters):

dx 1703.760 7857.309  
0.023960 0.014579

dy

-22118.585  
0.041130

dz

7857.309  
0.014579

dn

11214.801  
0.019477

de -20690.566  
0.027391

du

25.546  
0.036725

dh

68.919  
0.036610

Aposteriori Covariance Matrix:

5.741599E-004  
9.425709E-004  
3.162663E-004  
1.691669E-003  
4.970242E-004  
2.125405E-004

Variance Ratio Cutoff:  
Reference Variance:

2.7  
14.115

Observable Count/Rejected RMS:

Iono free phase 702/0 0.043

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35  
00006940.SSF

Solution Output File (SSF):

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:

BV05  
BV050741.RNX  
1.842 True Vertical  
Point Positioning

WGS 84 Position:

45° 39' 14.122717" N  
25° 32' 56.279842" E  
585.362

X 4029588.462  
Y 1926244.115  
Z 4538862.196

To Station:  
Data file:  
Antenna Height (meters):

tpa333  
76600740.RNX  
1.429 True Vertical

WGS 84 Position:

45° 45' 09.421933" N  
25° 16' 30.606247" E  
634.388

X 4031678.043  
Y 1903628.194  
Z 4546558.781

Start Time:  
Stop Time:  
Occupation Time

14/03/08 09:22:45.00 GPS  
14/03/08 10:32:30.00 GPS  
01:09:45.00

(1470 465765.00)  
(1470 469950.00)  
15.00

Meas. Interval (seconds):

Solution Type:  
Solution Acceptability:

Iono free fixed double difference  
Passed ratio test

Ephemeris:  
Met Data:  
Baseline Slope Distance

Std. Dev. (meters):

0.001697

Broadcast  
Standard  
23980.902

Normal Section Azimuth:  
Vertical Angle:

297° 19' 18.249122"  
0° 00' 34.355820"

117° 07' 32.767370"  
-0° 13' 29.009115"

Baseline Components (meters):  
Standard Deviations (meters):

dx	2089.581	dy	-22615.921
	0.003088		0.002266
dn	11006.913	de	-21305.669
	0.001690		0.001615

			dz	7696.586
				0.002973
			du	3.994
				0.004248
			dh	49.026
				0.004246

Aposteriori Covariance Matrix:

	9.538384E-006			
	4.298700E-006		5.133219E-006	
	6.620859E-006		3.851713E-006	8.836995E-006

Variance Ratio Cutoff:  
Reference Variance:

7.3  
2.575  
1.5

Observable Count/Rejected RMS:

1538/0

Project Name:  
Processed:

gabirac  
15 March 2008 8:00  
WAVE 2,35  
00006932.SSF

Solution Output File (SSF):

BV05  
BV050741.RNX  
1.842 True Vertical  
Point Positioning

WGS 84 Position:

45° 39' 14.122717" N  
25° 32' 56.279842" E  
585.362

X 4029588.462  
Y 1926244.115  
Z 4538862.196

To Station:  
Data file:  
Antenna Height (meters):

tpa334  
33440740.RNX  
1.486 True Vertical

WGS 84 Position:

X 4031548.119  
Y 1903743.700  
Z 4546644.147

Start Time:  
Stop Time:  
Occupation Time      Meas. Interval (seconds):

14/03/08 09:33:30.00 GPS      (1470 466410.00)  
14/03/08 10:38:30.00 GPS      (1470 470310.00)  
01:05:00.00                      15.00

Solution Type:  
Solution Acceptability:

L1 fixed double difference  
Passed ratio test  
  
Broadcast  
Standard                      0.000799  
23888.652

Ephemeris:  
Met Data:  
Baseline Slope Distance      Std. Dev. (meters):

Normal Section Azimuth:  
Vertical Angle:

297° 43' 40.840064"  
0° 02' 34.791077"

Forward  
Backward  
117° 32' 00.647344"  
-0° 15' 26.477230"

Baseline Components (meters):  
Standard Deviations (meters):

dx      1959.657      dy      -22500.415      dz      7781.951  
         0.001569                      0.000985      0.001561  
  
dn      11114.786      de      -21145.423      du      17.927  
         0.000825                      0.000796      0.002133

dh      62.614  
         0.002133

Aposteriori Covariance Matrix:

2.460321E-006  
7.888444E-007      9.696655E-007  
1.783604E-006      7.657604E-007      2.435243E-006

Variance Ratio      Cutoff:  
Reference Variance:

10.7                      1.5  
7.007

Observable      Count/Rejected      RMS:

L1 phase                      1487/0                      0.009

Project Name:  
Processed:

gabirad  
15 March 2008 8:14  
WAVE 2.35  
00007192.SSF

Solution Output File (SSF):

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:

BV05  
BV050741.RNX  
1.842 True Vertical  
Point Positioning

WGS 84 Position:

45° 39' 14.122717" N  
25° 32' 56.279842" E  
585.362

X      4029588.462  
Y      1926244.115  
Z      4538862.196

To Station:

tpa335

Data file:  
Antenna Height (meters):

16240740.RNX  
1.543 True Vertical

WGS 84 Position:

45° 45' 02.240073" N X 4032189.890  
25° 15' 46.745522" E Y 1902821.406  
576.532 Z 4546362.604

Start Time:

14/03/08 10:36:30.00 GPS (1470 470190.00)

Stop Time:

14/03/08 11:33:30.00 GPS (1470 473610.00)

Occupation Time

00:57:00.00

Meas. Interval (seconds):

15.00

Solution Type:

Iono free fixed double difference

Solution Acceptability:

Passed ratio test

Ephemeris:

Broadcast

Met Data:

Standard

Baseline Slope Distance

24731.495

Std. Dev. (meters):

0.002568

Normal Section Azimuth:

Forward

295° 51' 46.894774"

115° 39' 30.035381"

Vertical Angle:

-0° 07' 53.072504"

-0° 05' 25.778969"

Baseline Components (meters):

dx 2601.428 dy -23422.709 dz 7500.409

Standard Deviations (meters):

0.005440 0.003368 0.005108

Aposteriori Covariance Matrix:

dn 10788.374 de -22254.317 du -56.722  
0.002803 0.002042 0.007417  
dh -8.830  
0.007416

Variance Ratio

2.959742E-005

Reference Variance:

10.7 1.5

Cutoff:

3.993

Observable

Iono free phase

964/0

0.023

Project Name:

Gabirad

Processed:

15 March 2008 8:00

Solution Output File (SSF):

WAVE 2.35

00006924.SSF

From Station:

BV05

Data file:

BV050741.RNX

Antenna Height (meters):

1.842 True Vertical

Position Quality:

WGS 84 Position:

45° 39' 14.122717" N  
25° 32' 56.279842" E  
585.362

Point Positioning

X 4029588.462  
Y 1926244.115  
Z 4538862.196

To Station:

Data file: tpa336  
Antenna Height (meters): 76580740.RNX  
1.285 True Vertical

WGS 84 Position:

45° 45' 04.949380" N  
25° 15' 42.818123" E  
573.847

X 4032170.233  
Y 1902718.258  
Z 4546419.053

Start Time:

Stop Time: 14/03/08 10:33:00.00 GPS (1470 469980.00)  
Occupation Time: 14/03/08 11:33:15.00 GPS (1470 473595.00)  
Meas. Interval (seconds): 01:00:15.00 15.00

Solution Type:

Solution Acceptability: Iono free fixed double difference  
Passed ratio test

Ephemeris:

Met Data: Broadcast  
Baseline Slope Distance: 24844.266 Standard (meters): 0.001932

Normal Section Azimuth:

Vertical Angle: 295° 57' 07.755353" Forward  
-0° 08' 16.855430" Backward

Baseline Components (meters):

Standard Deviations (meters): dx 2581.771 dy -23525.857 dz 7556.857  
0.004017 0.002294 0.003888

Baseline Slope Distance

dn 10872.327 de -22338.901 du -59.845  
0.002090 0.001661 0.005421

Apriori Covariance Matrix:

Variance Ratio 1.613232E-005 dh -11.516  
Reference Variance: 5.812956E-006 3.150 0.005421  
1.210627E-005 1.5 1.511940E-005

Observable

Count/Rejected RMS: 19.7 1.5  
3.150 1303/5

Project Name:

gabirad 0.021

Processed:

Solution Output File (SSF):

15 March 2008 8:00  
WAVE 2.35  
00006964.SSF

From Station:

Data file: 69060740.RNX

Antenna Height (meters):

1.343 True Vertical

Position Quality:

Point Positioning

WGS 84 Position:

45° 45' 03.290648" N  
25° 15' 45.952534" E  
575.869

X 4032175.774  
Y 1902795.790  
Z 4546384.764

To Station:

Data file: 17840743.RNX

Antenna Height (meters):

1.558 True Vertical

WGS 84 Position:

45° 45' 14.763834" N  
25° 17' 00.171740" E  
652.918

X 4031309.994  
Y 1904161.123  
Z 4546687.143

Start Time:

14/03/08 13:33:45.00 GPS

Stop Time:

14/03/08 14:12:45.00 GPS

Occupation Time

00:39:00.00

(1470 480825.00)  
(1470 483165.00)  
15.00

Meas. Interval (seconds):

Solution Type:

L1 fixed double difference

Solution Acceptability:

Passed ratio test

Ephemeris:

Met Data:

Baseline Slope Distance

Std. Dev. (meters):

0.000484

Normal Section Azimuth:

77° 32' 25.285375"

257° 33' 18.452722"

2° 40' 39.711798"

-2° 41' 32.754603"

Vertical Angle:

Baseline Components (meters):

dx -865.780  
0.000669

dz -365.333  
0.000598

dz 302.379  
0.000737

Standard Deviations (meters):

dn 354.466  
0.000505

de 1604.242  
0.000532

du 76.838  
0.000900

dh 77.049  
0.000900

Aposteriori Covariance Matrix:

4.479086E-007  
1.174377E-007  
2.971052E-007

3.573152E-007  
1.998132E-008

5.431417E-007

Variance Ratio Cutoff: 1.5  
 Reference Variance: 1.234  
 Observable Count/Rejected RMS: 739/16 0.004

Project Name: Gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00006980.SSF

From Station: FIX1  
 Data file: 69060740.RNX  
 Antenna Height (meters): 1.343 True Vertical  
 Position Quality: Point Positioning

WGS 84 Position: 45° 45' 03.290648" N 4032175.774  
 25° 15' 45.952534" E 1902795.790  
 575.869 Z 4546384.764

To Station: s3  
 Data file: 17840742.RNX  
 Antenna Height (meters): 1.831 True Vertical

WGS 84 Position: 45° 44' 23.782754" N 4026893.359  
 25° 26' 42.341367" E 1915994.976  
 582.550 Z 4545538.262

Start Time: 14/03/08 12:17:45.00 GPS (1470 476265.00)  
 Stop Time: 14/03/08 13:05:30.00 GPS (-470 479130.00)  
 Occupation Time 00:47:45.00 15.00

Solution Type: Iono free fixed double difference  
 Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
 Met Data: Standard  
 Baseline Slope Distance 14242.155 Std. Dev. (meters): 0.001271

Normal Section Azimuth: Forward  
 Vertical Angle: 94° 50' 53.694518" 274° 58'  
 -0° 02' 13.110767" -0° 05' 26.649137"

Baseline Components (meters): dx -5282.414 dy 13199.186 dz -846.503  
 Standard Deviations (meters): 0.002284 0.001946 0.003219  
 dn -1203.703 de 14191.194 du -9.191  
 0.001735 0.001229 0.003853

dh 6.682  
0.003854

Aposteriori Covariance Matrix:

5.217210E-006  
3.284526E-006  
4.991630E-006  
3.785080E-006  
3.202087E-006  
1.036386E-005

Variance Ratio Cutoff: 1.5  
Reference Variance: 1.469

Observable Count/Rejected RMS: 1054/1 0.015

Project Name: gabirad  
Processed: 15 March 2008 8:00  
Solution Output File (SSF): WAVE\_2.35  
00006948.SSF

From Station: FIX1  
Data file: 69060740.RNX  
Antenna Height (meters): 1.343 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 45' 03.290648" N 4032175.774  
25° 15' 45.952534" E 1902795.790  
575.869 4546384.764

To Station: tpa317  
Data file: 33440743.RNX  
Antenna Height (meters): 1.666 True Vertical

WGS 84 Position: 45° 40' 31.463351" N 4030284.360  
25° 28' 56.868744" E 1920833.067  
592.824 4540536.403

Start Time: 14/03/08 14:30:30.00 GFS (1470 484230.00)  
Stop Time: 14/03/08 15:29:30.00 GFS (1470 487770.00)  
Occupation Time Meas. Interval (seconds): 00:59:00.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance Std. Dev. (meters): 19055.816 0.001124

Normal Section Azimuth: 116° 03' 13.862717" Forward  
296° 12' 40.042314" Backward



Vertical Angle:

Baseline Components (meters):  
Standard Deviations (meters):

dx:	-1891.413	dy	18037.277	-0° 08'	11.297337"
	0.003365		0.001233	dz	-5848.361
					0.002374

dn	-8369.612	de	17119.392	du	-11.477
	0.001394		0.001396	dh	0.003820

Aposteriori Covariance Matrix:

	1.132533E-005				
	1.760332E-006		1.521316E-006		
	6.421320E-006		1.382558E-006		5.637828E-006

Variance Ratio Cutoff:  
Reference Variance:

4.6  
11.100  
1.5

Observable Count/Rejected RMS:

L1 phase 1118/0 0.013

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35  
000006952.SSF

Solution Output File (SSF):

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:

FIX1  
69060740.RNX  
1.343 True Vertical  
Point Positioning

WGS 84 Position:

45° 45'	03.290648" N	X	4032175.774
25° 15'	45.952534" E	Y	1902795.790
575.869		Z	4546384.764

To Station:  
Data file:

tpa318  
76600743.RNX  
1.391 True Vertical

WGS 84 Position:

45° 40'	52.654936" N	X	4030184.670
25° 28'	22.243938" E	Y	1919955.419
593.679		Z	4540994.179

Start Time:  
Stop Time:  
Occupation Time

14/03/08 14:20:00.00	GPS	(1470 483600.00)
14/03/08 15:17:45.00	GPS	(1470 487065.00)
00:57:45.00		15.00

Solution Type:  
Solution Acceptability:

Iono free fixed double difference  
Passed ratio test

Meas. Interval (seconds):

Ephemeris:  
Met Data:

Baseline Slope Distance      Std. Dev. (meters):

18096.291      0.001010

Broadcast  
Standard  
18096.291

Normal Section Azimuth:  
Vertical Angle:

115° 14' 34.748459"  
-0° 01' 29.257474"

Backward  
295° 23' 36.168823"  
-0° 08' 15.257472"

Baseline Components (meters):  
Standard Deviations (meters):

dx      -1991.103      dy      17159.629  
         0.003570                      0.001185  
dn      -7717.308      de      16368.227  
         0.001506                      0.001299

dh      17.810  
         0.003910

Aposteriori Covariance Matrix:

1.274550E-005  
2.308327E-006      1.403976E-006  
6.641251E-006      1.421415E-006      5.101877E-006

Variance Ratio      Cutoff:  
Reference Variance:

37.0  
0.832      1.5

Observable      Count/Rejected      RMS:

Iono free phase      1022/0      0.012

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35  
00006972.SSF

Solution Output File (SSF):

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:

FIX1  
69060740.RNX  
1.343 True Vertical  
Point Positioning

WGS 84 Position:

45° 45' 03.290648" N      X      4032175.774  
25° 15' 45.952534" E      Y      1902795.790  
575.869      Z      4546384.764

To Station:  
Data file:  
Antenna Height (meters):

tpa319  
33440742.RNX  
1.629 True Vertical

WGS 84 Position:

45° 42' 15.225251" N      X      4029048.986  
25° 27' 26.583632" E      Y      1918080.574  
583.605      Z      4542767.802

Start Time: 14/03/08 12:36:15.00 GPS (1470 477375.00)  
 Stop Time: 14/03/08 13:33:00.00 GPS (1470 480780.00)  
 Occupation Time 00:56:45.00 Meas. Interval (seconds): 15.00

Solution Type: L1 fixed double difference  
 Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
 Met Data: Standard  
 Baseline Slope Distance 16015.113 Std. Dev. (meters): 0.001123

Normal Section Azimuth: 108° 50' 12.626578" Forward  
 Vertical Angle: -0° 02' 38.937292" 288° 58' 34.298605" Backward

Baseline Components (meters): dx -3126.788 dy 15284.784 dz -3616.962  
 Standard Deviations (meters): 0.001587 0.001348 0.002561

Variance Ratio 3.5  
 Reference Variance: 10.628

Variance Ratio Cutoff: 1.5  
 Reference Variance: 10.628

A posteriori Covariance Matrix:  
 2.519894E-006  
 1.370942E-006  
 2.686601E-006

Variance Ratio Cutoff: 1.5  
 Reference Variance: 10.628

Observable Count/Rejected RMS: 1141/6 0.011

Project Name: gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00006968.SSF

From Station: FIX1  
 Data file: 69060740.RNX  
 Antenna Height (meters): 1.343 True Vertical  
 Position Quality: Point Positioning

WGS 84 Position: 45° 45' 03.290648" N X 4032175.774  
 25° 15' 45.952534" E Y 1902795.790  
 575.869 Z 4546384.754

To Station:  
Data file:  
Antenna Height (meters):

tpa320  
76600742.RNX  
1.454 True Vertical

WGS 84 Position:

45° 42' 19.969828" N X 4028948.259  
25° 27' 27.159548" E Y 1918046.421  
583.132 Z 4542870.201

Start Time:

14/03/08 12:46:00.00 GPS (1470 477960.00)

Stop Time:

14/03/08 13:39:45.00 GPS (1470 481185.00)

Occupation Time Meas. Interval (seconds):

00:53:45.00 15.00

Solution Type:

Iono free fixed double difference

Solution Acceptability:

Passed ratio test

Ephemeris:

Broadcast

Met Data:

Standard

Baseline Slope Distance Std. Dev. (meters):

15979.698 0.001944

Normal Section Azimuth:

108° 19' 24.570646" Forward

Vertical Angle:

-0° 02' 44.250870" Backward

Baseline Components (meters):

dx -327.515 dy 15250.631 dz -3514.564

Standard Deviations (meters):

0.002467 0.002193 0.003518

Baseline Slope Distance

15169.469 du -12.725

Std. Dev. (meters)

0.002116 0.001656 dh 7.263

Baseline Slope Distance

15979.698

Aposteriori Covariance Matrix:

6.085454E-006  
2.980075E-006 4.811023E-006  
5.454364E-006 1.871611E-006 1.237378E-005

Variance Ratio Cutoff:

11.9 1.5

Reference Variance:

2.310

Observable Count/Rejected

Iono free phase 1095/1 0.018

Project Name:

gabirad

Processed:

15 March 2008 8:00

Solution Output File (SSF):

WAVE 2.35  
00006956.SSF

From Station:

FIX1

Data file:

69060740.RNX

Antenna Height (meters):  
Position Quality:

1.343 True Vertical  
Point Positioning

WGS 84 Position:

45° 45' 03.290648" N  
25° 15' 45.952534" E  
575.869

X 4032175.774  
Y 1902795.790  
Z 4546384.764

To Station:

Data file:

Antenna Height (meters):

tpa321  
16240742.RNX  
1.652 True Vertical

WGS 84 Position:

45° 43' 29.296527" N  
25° 28' 52.523564" E  
569.386

X 4026762.525  
Y 1919050.466  
Z 4544354.533

Start Time:

Stop Time:

Occupation Time

14/03/08 13:39:00.00 GPS  
14/03/08 14:37:15.00 GPS  
00:58:15.00

(1470 481140.00)  
(1470 484635.00)  
15.00

Meas. Interval (seconds):

Solution Type:

Solution Acceptability:

Iono free fixed double difference  
Passed ratio test

Ephemeris:

Met Data:

Baseline Slope Distance

Broadcast

Standard

17252.234

0.003374

Normal Section Azimuth:

Vertical Angle:

99° 36' 22.636754"  
-0° 05' 55.989233"

Forward

279° 45' 45.943259"  
-0° 03' 20.980138"

Backward  
-2030.231  
0.004344

Baseline Components (meters):

Standard Deviations (meters):

dx -5413.248  
0.005783

dy 16254.675  
0.002968

dh

-2878.996  
0.003019

de 17010.293  
0.003452

du -29.775  
0.006332

dh -6.483  
0.006328

Aposteriori Covariance Matrix:

3.344124E-005  
1.788285E-006  
1.692114E-005

8.808468E-006  
8.034446E-007

1.887055E-005

Variance Ratio

Reference Variance:

2.3  
5.684

1.5

Observable

Count/Rejected

RMS:

Iono free phase

1040/0

0.032

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35  
00006960.SSF

Solution Output File (SSF):

From Station:

FIX1  
69060740.RNX  
1.343 True Vertical  
Point Positioning

Data file:  
Antenna Height (meters):  
Position Quality:

45° 45' 03.290648" N  
25° 15' 45.952534" E  
575.869

X 4032175.774  
Y 1902795.790  
Z 4546384.764

To Station:

tpa322  
76580742.RNX  
1.392 True Vertical

Data file:  
Antenna Height (meters):

45° 43' 41.106284" N  
25° 29' 13.050314" E  
566.093

X 4026333.770  
Y 1919337.847  
Z 4544606.728

Start Time:

14/03/08 13:37:30.00 GPS

Stop Time:

14/03/08 14:41:30.00 GPS

Occupation Time Meas. Interval (seconds):

01:04:00.00 15.00

Solution Type:

Iono free float double difference

Solution Acceptability:

Acceptable

Ephemeris:

Broadcast

Met Data:

Standard

Baseline Slope Distance

17633.209 0.019079

Normal Section Azimuth:

Forward

98° 11' 37.793405"

Vertical Angle:

-0° 06' 38.983505"

Backward

278° 21' 15.816408"

-0° 02' 50.271101"

Baseline Components (meters):

dx -5842.004 dy 16542.057 dz -1778.036

Standard Deviations (meters):

0.015262 0.021058 0.010379

Baseline Components (meters):

dn -2513.122 de 17453.169 du -34.108

Standard Deviations (meters):

0.010581 0.018955 0.017687

Baseline Components (meters):

dh -9.776

Standard Deviations (meters):

0.017710

Aposteriori Covariance Matrix:

2.329188E-004

5.934382E-005

4.434363E-004

6.362027E-005 1.070526E-004 1.077232E-004

Variance Ratio Cutoff: 7.2  
Reference Variance: 2.875  
Iono free phase 1.5

Observable Count/Rejected RMS: 1183/0 0.020

Ambiguity Summary (cycles):

SV	Ambiguity	Error
04	-41795648.076	± 0.557
11	-2445084.857	± 0.239
13	-36508567.858	± 0.380
17	-24335400.159	± 0.607
20	12.578	± 0.232
25	-47494133.718	± 0.295
31	-19455663.669	± 0.543
31	-27657091.748	± 0.566

Project Name: gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00006976.SSF

From Station: FIX1  
 Data file: 69060740.RNX  
 Antenna Height (meters): 1.343 True Vertical  
 Position Quality: Point Positioning

WGS 84 Position: 45° 45' 03.290648" N 25° 15' 45.952534" E 575.869

To Station: tpa323  
 Data file: 34380742.RNX  
 Antenna Height (meters): 2.102 True Vertical

WGS 84 Position: 45° 44' 36.135604" N 25° 26' 42.249625" E 579.752

Start Time: 14/03/08 12:25:15.00 GPS  
 Stop Time: 14/03/08 13:07:45.00 GPS  
 Occupation Time 00:42:30.00 Meas. Interval (seconds): 15.00  
 (1470 476715.00)  
 (1470 479265.00)

Solution Type: L1 fixed double difference  
 Solution Acceptability: Passed ratio test

Ephemeris: Broadcast

X 4032175.774  
 Y 1902795.790  
 Z 4546384.764

X 4026645.776  
 Y 1915874.980  
 Z 4545802.446

Met Data: Standard 0.000545  
Baseline Slope Distance Std. Dev. (meters): 14212.148

Normal Section Azimuth: Forward 273° 26' 50.907970" Backward  
Vertical Angle: -0° 04' 45.758059"

Baseline Components (meters): dx -5529.997 dy 13079.189 dz -582.318  
Standard Deviations (meters): 0.001071 0.000814 0.001714  
dn -822.292 de . 14188.335 du -11.922  
0.000896 0.000535 0.001912  
dh 3.884  
0.001913

Aposteriori Covariance Matrix:  
1.146459E-006  
6.027369E-007 6.631894E-007  
1.239115E-006 6.751138E-007 2.936986E-006

Variance Ratio Cutoff: 7.7  
Reference Variance: 3.574  
1.5

Observable Count/Rejected RMS: L1 phase 957/0 0.007

Project Name: gabirad  
Processed: 15 March 2008 8:17  
WAVE 2.35  
Solution Output File (SSF): 00007204.SSF

From Station: FIX1  
Data file: 69060740.RNX  
Antenna Height (meters): 1.343 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 45' 03.305920" N 4032175.872  
25° 15' 45.974755" E 1902796.368  
576.833 Z 4546385.784

To Station: tpa325  
Data file: 16240741.RNX  
Antenna Height (meters): 1.559 True Vertical

WGS 84 Position: 45° 45' 25.307444" N 4027563.531  
25° 23' 18.427041" E 1911433.079  
594.096 Z 4546872.152

Start Time: 14/03/08 12:04:45.00 GPS (1470 475485.00)



Stop Time: 14/03/08 13:06:45.00 GPS (1470 479205.00)  
Occupation Time 01:02:00.00 15.00

Solution Type: Iono free fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 9803.215 Std. Dev. (meters): 0.005081

Normal Section Azimuth: Forward  
Vertical Angle: 85° 58' 52.830956" 266° 04' 16.945496"  
0° 03' 24.984151" -0° 08' 41.444260"

Baseline Components (meters): dx -4612.341 dy 8636.711 dz 486.368  
Standard Deviations (meters): 0.008118 0.008962 0.012992

Baseline Components (meters): dn 687.022 de 9779.106 du 9.742  
Standard Deviations (meters): 0.004954 0.005053 0.016277

Baseline Components (meters): dh 17.263  
Standard Deviations (meters): 0.016284

Aposteriori Covariance Matrix:  
6.590288E-005  
6.757502E-005 8.031638E-005  
8.625086E-005 9.748550E-005 1.687889E-004

Variance Ratio 10.6  
Reference Variance: 6.659 Cutoff: 1.5

Observable Count/Rejected RMS: Iono free phase 928/0 0.031

Project Name: gabirad  
Processed: 15 March 2008 8:00  
Solution Output File (SSF): WAVE 2.35  
00006988.SSF

From Station: FIX1  
Data file: 69060740.RNX  
Antenna Height (meters): 1.343 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 45' 03.290648" N 4032175.774  
25° 15' 45.952534" E 1902795.790  
575.869 4546384.764

To Station: tpa326  
Data file: 76580741.RNX

Antenna Height (meters):

1.470 True Vertical

WGS 84 Position:

X 4027095.293  
Y 1912202.250  
Z 4546938.150

Start Time:

14/03/08 12:03:30.00 GPS (1470 475410.00)

Stop Time:

14/03/08 13:02:30.00 GPS (1470 478950.00)

Occupation Time

00:59:00.00

15.00

Meas. Interval (seconds):

Solution Type:

Iono free fixed double difference

Solution Acceptability:

Passed ratio test

Ephemeris:

Broadcast

Met Data:

Standard

Baseline Slope Distance

0.001237

Std. Dev. (meters):

Normal Section Azimuth:

85° 42' 17.725587" Forward

Vertical Angle:

265° 48' 11.544407" Backward  
-0° 03' 02.862836"

Baseline Components (meters):

dx -5080.480 dy 9406.459 dz 553.386

Standard Deviations (meters):

0.002470 0.001966 0.003332

dh

801.737 de 10675.024 du -8.445

0.001898 0.001266 0.003983

dh

0.523 0.003983

Aposteriori Covariance Matrix:

6.099141E-006  
3.458660E-006  
5.259904E-006  
3.864618E-006  
3.137618E-006  
1.110548E-005

Variance Ratio Cutoff:

1.5

Reference Variance:

2.300

Observable Count/Rejected

Iono free phase

1377/0

0.018

Project Name:

gabirad

Processed:

15 March 2008 8:00

Solution Output File (SSF):

00007000.SSF

From Station:

FIX1

Data file:

69060740.RMX

Antenna Height (meters):

1.343 True Vertical

Position Quality:

Point Positioning

WGS 84 Position:

45° 45' 03.290648" N  
25° 15' 45.952534" E  
575.869

X 4032175.774  
Y 1902795.790  
Z 4546384.764

To Station:

Data file:  
Antenna Height (meters):

tpa327  
17840741.RNX  
1.550 True Vertical

WGS 84 Position:

45° 46' 17.244380" N  
25° 22' 06.778686" E  
588.986

X 4027185.841  
Y 1909540.150  
Z 4547987.220

Start Time:

Stop Time:  
Occupation Time Meas. Interval (seconds):

14/03/08 11:04:45.00 GPS (1470 471885.00)  
14/03/08 11:57:30.00 GPS (1470 475050.00)  
00:52:45.00 15.00

Solution Type:

Solution Acceptability:

Iono free fixed double difference  
Passed ratio test

Ephemeris:

Met Data:  
Baseline Slope Distance Std. Dev. (meters):

Broadcast  
Standard  
8541.293 0.000751

Normal Section Azimuth:

Vertical Angle:

Forward  
74° 27' 20.974734"  
0° 02' 58.881244"

Backward  
254° 31' 53.813518"  
-0° 07' 34.665327"

Baseline Components (meters):

Standard Deviations (meters):

dx -4989.933 dy 6744.360 dz 1602.456  
0.002257 0.001475 0.001925

dn

2288.905 de 8228.884 du 7.407  
0.001375 0.000844 0.002893

dht 13.117  
0.002893

Aposteriori Covariance Matrix:

5.095277E-006  
2.586212E-006  
3.012699E-006

3.703810E-006

Variance Ratio

Reference Variance:

37.0  
0.782

1.5

Observable

Count/Rejected

RMS:

1093/7

0.010

Project Name:

Processed:

gabirad  
15 March 2008 8:00

Solution Output File (SSF):

WAVE 2.35  
00006996.SSF

From Station:

Data file: 69060740.RNX  
Antenna Height (meters): 1.343 True Vertical  
Position Quality: Point Positioning

WGS 84 Position:

45° 45' 03.290648" N 4032175.774  
25° 15' 45.952534" E 1902795.790  
575.869 4546384.764

To Station:

Data file: tpa328  
Antenna Height (meters): 34380741.RNX  
2.102 True Vertical

WGS 84 Position:

45° 46' 20.139744" N 4027034.739  
25° 22' 16.723153" E 1909706.312  
587.159 4548048.269

Start Time:

Stop Time: 14/03/08 11:12:15.00 GPS (1470 472335.00)  
Occupation Time: 14/03/08 11:53:00.00 GPS (1470 474780.00)  
00:40:45.00 15.00

Meas. Interval (seconds):

Solution Type:

Solution Acceptability: L1 fixed double difference  
Passed ratio test

Ephemeris:

Met Data: Broadcast  
Baseline Slope Distance 8772.274 Std. Dev. (meters): 0.000691

Normal Section Azimuth:

Vertical Angle: 74° 16' 02.467584" Forward  
0° 02' 03.860404" Backward

Baseline Components (meters):  
Standard Deviations (meters):

dx -5141.034 dy 6910.522 dz 1663.505  
0.002135 0.001413 0.001693  
dn 2378.593 de 8443.640 du 5.268  
0.001206 0.000783 0.002712  
dh 11.291  
0.002712

Aposteriori Covariance Matrix:

4.557598E-006  
2.396794E-006 1.997693E-006  
2.702795E-006 1.284290E-006 2.867564E-006

Variance Ratio Cutoff: 1.5  
Reference Variance: 5.412

Observable Count/Rejected RMS: 854/4 0.007

Project Name:  
Processed:

Solution Output File (SSF):

From Station: gabirad  
Data file: 15 March 2008 8:00  
Antenna Height (meters): WAVE 2.35  
Position Quality: 00006992.SSF

WGS 84 Position: 45° 45' 03.290648" N 4032175.774  
25° 15' 45.952534" E 1902795.790  
575.869 Z 4546384.764

To Station: tpa329  
Data file: 76600741.RNX  
Antenna Height (meters): 1.404 True Vertical

WGS 84 Position: 45° 46' 04.618158" N 4028621.554  
25° 19' 58.741703" E 1907158.843  
586.879 Z 4547713.767

Start Time: 14/03/08 11:13:00.00 GPS (1470 472380.00)  
Stop Time: 14/03/08 11:57:45.00 GPS (1470 475065.00)  
Occupation Time 00:44:45.00 Meas. Interval (seconds): 15.00

Solution Type: Iono free fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 5782.297 Std. Dev. (meters): 0.000833

Normal Section Azimuth: Forward 70° 51' 31.531165"  
Vertical Angle: 0° 04' 59.412718"

Baseline Components (meters): dx -3554.220 dy 4363.053 dz 1329.002  
Standard Deviations (meters): 0.002509 0.001733 0.002113

Baseline Slope Distance 5782.297 Std. Dev. (meters): 0.000833  
Normal Section Azimuth: Forward 70° 51' 31.531165"  
Vertical Angle: 0° 04' 59.412718"  
Baseline Components (meters): dx -3554.220 dy 4363.053 dz 1329.002  
Standard Deviations (meters): 0.002509 0.001733 0.002113

Baseline Slope Distance 5782.297 Std. Dev. (meters): 0.000833  
Normal Section Azimuth: Forward 70° 51' 31.531165"  
Vertical Angle: 0° 04' 59.412718"  
Baseline Components (meters): dx -3554.220 dy 4363.053 dz 1329.002  
Standard Deviations (meters): 0.002509 0.001733 0.002113

dh 11.011  
0.003206

Aposteriori Covariance Matrix:  
6.294465E-006  
3.463218E-006  
3.537551E-006  
3.004037E-006  
1.674277E-006  
4.465348E-006

Variance Ratio Cutoff: 1.5  
Reference Variance: 0.836

Observable Count/Rejected RMS: 931/0 0.011

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
00007004.SSF

Solution Output File (SSF):  
From Station: FIX1  
Data file: 69060740.RNX  
Antenna Height (meters): 1.343 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 45' 03.290648" N 4032175.774  
25° 15' 45.952534" E 1902795.790  
575.869 4546384.764

To Station: tpa330  
Data file: 33440741.RNX  
Antenna Height (meters): 1.638 True Vertical

WGS 84 Position: 45° 46' 13.361521" N 4028350.363  
25° 20' 08.827106" E 1907271.577  
581.965 4547898.562

Start Time: 14/03/08 10:58:00.00 GPS (1470 471480.00)  
Stop Time: 14/03/08 12:06:30.00 GPS (1470 475590.00)  
Occupation Time Meas. Interval (seconds): 01:08:30.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance Std. Dev. (meters): 6079.310 0.000534

Normal Section Azimuth: 69° 07' 32.870470" Forward  
Vertical Angle: 0° 01' 48.673069" Backward  
249° 10' 41.202346"  
-0° 05' 04.999605"

Baseline Components (meters):  
Standard Deviations (meters):

dx	-3825.410	dy	4475.786	dz	1513.798
	0.001489		0.000998		0.001287
dn	2166.163	de	5680.294	du	3.203
	0.000894		0.000602		0.001926
				dh	6.096
					0.001926

Aposteriori Covariance Matrix:

	2.218278E-006				
	1.110641E-006		9.967217E-007		
	1.348863E-006		5.893253E-007		1.656987E-006

Variance Ratio Cutoff: 1.5  
Reference Variance: 25.9  
5.951

Observable Count/Rejected RMS: L1 phase 1508/3 0.008

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF): 00007024.SSF

From Station: FIX1  
Data file: 69060740.RNX  
Antenna Height (meters): 1.343 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 45' 03.290648" N 4032175.774  
25° 15' 45.952534" E 1902795.790  
575.869 4546384.764

To Station: tpa331  
Data file: 34380740.RNX  
Antenna Height (meters): 2.102 True Vertical

WGS 84 Position: 45° 45' 09.833528" N 4031370.482  
25° 17' 03.969513" E 1904280.481  
648.073 4546577.452

Start Time: 14/03/08 09:33:00.00 GPS (1470 466380.00)  
Stop Time: 14/03/08 10:46:00.00 GPS (1470 470760.00)  
Occupation Time Meas. Interval (seconds): 01:13:00.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris:  
Met Data:

Baseline Slope Distance      Std. Dev. (meters):

Broadcast Standard  
1699.980      0.000400

Normal Section Azimuth:  
Vertical Angle:

83° 09' 39.327303"      Forward  
2° 25' 36.062324"      263° 10' 35.213652"      Backward  
-2° 26' 30.891831"      dz

Baseline Components (meters):  
Standard Deviations (meters):

dx      -805.292      dy      1484.691      dz      192.688  
0.000812      0.000464      0.000769  
dn      202.254      de      1686.370      du      71.979  
0.000415      0.000402      0.001064  
dh      72.205  
0.001064

Aposteriori Covariance Matrix:

6.593979E-007  
1.747958E-007      2.155731E-007  
4.538008E-007      1.673484E-007      5.918540E-007

Variance Ratio      Cutoff:  
Reference Variance:

40.8      1.5  
1.999

Observable      Count/Rejected      RMS:

L1 phase      1656/0      0.005

Project Name:  
Processed:

gabirad  
15 March 2008 8:16  
WAVE 2.35  
00007200.SSF

Solution Output File (SSF):

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:

FIX1  
69060740.RNX  
1.343 True Vertical  
Point Positioning

WGS 84 Position:

X      4032175.872  
Y      1902796.368  
Z      4546385.784

To Station:  
Data file:  
Antenna Height (meters):

tpa332  
17840740.RNX  
1.544 True Vertical

WGS 84 Position:

X      4031292.170  
Y      1904125.892  
Z      4546720.435



Start Time: 14/03/08 09:42:00.00 GPS (1470 466920.00)  
 Stop Time: 14/03/08 10:41:15.00 GPS (1470 470475.00)  
 Occupation Time Meas. Interval (seconds): 00:59:15.00 15.00

Solution Type: L1 fixed double difference  
 Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
 Met Data: Standard  
 Baseline Slope Distance Std. Dev. (meters): 1631.121 0.001382

Normal Section Azimuth: Forward  
 Vertical Angle: 75° 49' 16.593844" 255° 49' 08.942248"  
 2° 44' 24.977134" -2° 45' 17.580597"

Baseline Components (meters): dx -883.702 dy 1329.524 dz 334.651  
 Standard Deviations (meters): 0.002687 0.001715 0.002780

dh 399.541 de 1579.506 du 77.981  
 0.001461 0.001400 0.003715

dh 78.189  
 0.003715

Aposteriori Covariance Matrix:  
 7.221689E-006  
 2.278866E-006 2.939763E-006  
 5.426414E-006 2.186517E-006 7.730232E-006

Variance Ratio Cutoff: 3.6 1.5  
 Reference Variance: 20.685

Observable Count/Rejected RMS: L1 phase 1377/4 0.014

Project Name: gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00007028.SSF

From Station: FIX1  
 Data file: 69060740.RNX  
 Antenna Height (meters): 1.343 True Vertical  
 Position Quality: Point Positioning

WGS 84 Position: 45° 45' 03.290648" N 4032175.774 X  
 25° 15' 45.952534" E 1902795.790 Y  
 575.869 4546384.764 Z

To Station: tpa333

Data file:  
Antenna Height (meters):

76600740.RNX  
1.429 True Vertical

WGS 84 Position:

45° 45' 09.422338" N X 4031678.023  
25° 16' 30.606022" E Y 1903628.179  
634.366 Z 4546558.774

Start Time:

14/03/08 09:22:45.00 GPS (1470 465765.00)

Stop Time:

14/03/08 10:32:30.00 GPS (1470 469950.00)

Occupation Time Meas. Interval (seconds):

01:09:45.00 15.00

Solution Type:

L1 fixed double difference

Solution Acceptability:

Passed ratio test

Ephemeris:

Broadcast

Met Data:

Standard

Baseline Slope Distance Std. Dev. (meters):

985.345 0.000458

Normal Section Azimuth:

78° 53' 52.156990" Forward

Vertical Angle:

-3° 24' 28.437611" Backward

Baseline Components (meters):

dx -497.750 dy 832.388 dz 174.010

Standard Deviations (meters):

0.000870 0.000599 0.000851

Baseline Components (meters):

dn 189.404 de 965.204 du 58.421

Standard Deviations (meters):

0.000483 0.000452 0.001184

Baseline Components (meters):

dh 58.497

Standard Deviations (meters):

0.001184

Aposteriori Covariance Matrix:

7.565710E-007  
2.943444E-007 3.588385E-007  
5.193253E-007 2.751331E-007 7.243078E-007

Variance Ratio Cutoff:

27.9 1.5

Reference Variance:

2.350

Observable Count/Rejected

L1 phase RMS: 1593/0 0.006

Project Name:

gabirad

Processed:

15 March 2008 8:00

Solution Output File (SSF):

WAVE 2.35  
00007020.SSF

From Station:

FIX1

Data file:

69060740.RNX

Antenna Height (meters):

1.343 True Vertical

Position Quality:

WGS 84 Position:

X 4032175.774  
Y 1902795.790  
Z 4546384.764

Point Positioning

45° 45' 03.290648" N  
25° 15' 45.952534" E  
575.869

To Station:

Data file: tpa334  
Antenna Height (meters): 33440740.RNX  
1.486 True Vertical

WGS 84 Position:

X 4031548.092  
Y 1903743.681  
Z 4546644.126

Start Time:

14/03/08 09:33:30.00 GPS

Stop Time:

(1470 466410.00)

Occupation Time

(1470 470310.00)

Meas. Interval (seconds): 15.00

Solution Type:

L1 fixed double difference

Solution Acceptability:

Passed ratio test

Ephemeris:

Broadcast

Met Data:

Standard

Baseline Slope Distance

1166.083

Std. Dev. (meters): 0.000332

Normal Section Azimuth:

75° 10' 25.017161" Forward

Vertical Angle:

3° 32' 17.419723" Backward

Baseline Components (meters):

dx -627.682 dy 947.891 dz 259.362  
0.000652 0.000390 0.000655

Standard Deviations (meters):

dn 297.821 de 1125.110 du 71.963  
0.000348 0.000331 0.000881

dh 72.069  
0.000881

Aposteriori Covariance Matrix:

4.254023E-007  
1.199106E-007  
3.061577E-007  
1.523017E-007  
1.207268E-007  
4.290394E-007

Variance Ratio

57.7

Reference Variance:

1.285

Observable Count/Rejected

L1 phase 1509/0

RMS:

0.004

Project Name:

gabirad

Processed: 15 March 2008 8:00  
WAVE 2.35  
00007008.SSF

Solution Output File (SSF):

From Station: FIX1  
Data file: 69060740.RNX  
Antenna Height (meters): 1.343 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 45' 03.290648" N 4032175.774 X  
25° 15' 45.952534" E 1902795.790 Y  
575.869 4546384.764 Z

To Station: tpa335  
Data file: 16240740.RNX  
Antenna Height (meters): 1.543 True Vertical

WGS 84 Position: 45° 45' 02.240738" N 4032189.841 X  
25° 15' 46.744840" E 1902821.367 Y  
576.465 4546362.571 Z

Start Time: 14/03/08 10:36:30.00 GPS (1470 470190.00)  
Stop Time: 14/03/08 11:33:30.00 GPS (1470 473610.00)  
Occupation Time 00:57:00.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 36.669  
Std. Dev. (meters): 0.001053

Normal Section Azimuth: 152° 09' 08.453002" Forward  
Vertical Angle: 0° 55' 55.601120" 0° 55' 56.787694" Backward

Baseline Components (meters): dx 14.068 dy 25.576 dz -22.193  
Standard Deviations (meters): 0.001914 0.001070 0.001846

Baseline Components (meters): dn -32.418 de 17.126 du 0.597  
Standard Deviations (meters): 0.001012 0.000778 0.002567

Aposteriori Covariance Matrix: dh 0.597  
0.002567

Aposteriori Covariance Matrix: 3.663733E-006  
1.293608E-006 1.144376E-006  
2.716659E-006 7.886717E-007 3.407981E-006

Variance Ratio Cutoff: 34.6 1.5  
Reference Variance: 7.001

Observable Count/Rejected RMS: 1250/0 0.010

Project Name: gabirad  
Processed: 15 March 2006 8:00  
Solution Output File (SSF): WAVE 2.35  
00007012.SSF

From Station: FIX1  
Data file: 69060740.RNX  
Antenna Height (meters): 1.343 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 45' 03.290648" N 4032175.774  
25° 15' 45.952534" E 1902795.790  
575.869 Z 4546384.764

To Station: tpa336  
Data file: 76580740.RNX  
Antenna Height (meters): 1.285 True Vertical

WGS 84 Position: 45° 45' 04.949889" N 4032170.188  
25° 15' 42.817987" E 1902718.234  
573.788 Z 4546419.023

Start Time: 14/03/08 10:33:00.00 GPS (1470 469980.00)  
Stop Time: 14/03/08 11:33:15.00 GPS (1470 473595.00)  
Occupation Time Meas. Interval (seconds): 01:00:15.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance Std. Dev. (meters): 84.970 0.000633

Normal Section Azimuth: 307° 05' 39.429162" Forward  
Vertical Angle: -1° 24' 11.912275" Backward  
127° 05' 37.183941"  
1° 24' 09.166922"

Baseline Components (meters): dx -5.586 dy -77.557 dz 34.258  
Standard Deviations (meters): 0.001240 0.000698 0.001199  
du 51.232 de -67.755 du -2.081  
0.000652 0.000510 0.001666

dh -2.080  
0.001666

Aposteriori Covariance Matrix:

1.537833E-006  
5.412578E-007  
1.144539E-006

4.867331E-007  
3.390480E-007

1.436803E-006

Variance Ratio Cutoff: 1.5  
Reference Variance: 3.199

Observable Count/Rejected RMS: 1331/4 0.007

Project Name: gabirad  
Processed: 15 March 2008 8:18

WAVE 2.35  
00007208.SSF

Solution Output File (SSF):

From Station: km204  
Data file: 17840743.RNX  
Antenna Height (meters): 1.558 True Vertical  
Position Quality: Point Positioning

WGS 84 Position:

45° 45' 14.758508" N  
25° 17' 00.102677" E  
651.029

X 4031309.547  
Y 1904159.261  
Z 4546685.676

To Station: tpa321

Data file: 16240742.RNX  
Antenna Height (meters): 1.652 True Vertical

WGS 84 Position:

45° 43' 29.291748" N  
25° 28' 52.455380" E  
567.477

X 4026762.052  
Y 1919048.607  
Z 4544353.063

Start Time: 14/03/08 13:39:00.00 GPS  
Stop Time: 14/03/08 14:12:45.00 GPS  
Occupation Time 00:33:45.00 Meas. Interval (seconds): 15.00

(1470 481140.00)  
(1470 483165.00)

Solution Type: Iono free fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 15742.090 Std. Dev. (meters): 0.008152

Normal Section Azimuth:

101° 52' 04.765968" Forward  
282° 00' 34.936125" Backward

Vertical Angle: -0° 22' 28.885583" 0° 14' 00.655462"

Baseline Components (meters): dx: -4547.495 14889.346 dz: -2332.613  
Standard Deviations (meters): 0.013889 0.006314 0.008862

dn: -3237.410 15405.259 du: -102.946  
0.006462 0.008481 0.014058

dh: -83.552  
0.014047

Aposteriori Covariance Matrix:  
1.929151E-004  
-5.349248E-006 3.987107E-005  
9.118706E-005 -7.959361E-006 7.852832E-005

Variance Ratio Cutoff: 2.0 1.5  
Reference Variance: 9.562

Observable Count/Rejected RMS: Iono free phase 504/0 0.038

Project Name: gabirad  
Processed: 15 March 2008 8:00  
Solution Output File (SSF): WAVE 2.35  
00007168.SSF

From Station: s3  
Data file: 17840742.RNX  
Antenna Height (meters): 1.831 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 44' 23.782431" N 4026893.367  
25° 26' 42.341345" E 1915994.979  
582.551 4545538.255

To Station: tpa319  
Data file: 33440742.RNX  
Antenna Height (meters): 1.629 True Vertical

WGS 84 Position: 45° 42' 15.224581" N 4029048.998  
25° 27' 26.584088" E 1918080.591  
583.610 4542767.791

Start Time: 14/03/08 12:36:15.00 GPS (1470 477375.00)  
Stop Time: 14/03/08 13:05:30.00 GPS (1470 479130.00)  
Occupation Time 00:29:15.00 Meas. Interval (seconds): 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris:  
 Met Data:  
 Broadcast Standard  
 Baseline Slope Distance      Std. Dev. (meters):      0.001543  
 4083.136

Normal Section Azimuth:  
 Vertical Angle:  
 166° 26' 34.512109"      Forward  
 -0° 00' 12.621858"      346° 27' 06.188202"      Backward  
 -0° 01' 59.594460"

Baseline Components (meters):  
 Standard Deviations (meters):  
 dx:      2155.631      dy      2085.612  
          0.001875           0.001588  
 dn:      -3969.367      de      957.144  
          0.001511           0.001042  
                    dh      1.059  
                         0.003362

Aposteriori Covariance Matrix:  
 3.515505E-006  
 2.084949E-006      2.520190E-006  
 3.846659E-006      2.310884E-006      8.639262E-006

Variance Ratio      Cutoff:  
 Reference Variance:  
 3.3      1.5  
 6.735

Observable      Count/Rejected      RMS:  
 L1 phase      646/2      0.009  
 gabirad  
 Project Name:  
 Processed:  
 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF):  
 00007172.SSF

From Station:  
 Data file:  
 Antenna Height (meters):  
 Position Quality:  
 WGS 84 Position:  
 s3  
 17840742.RNX  
 1.831 True Vertical  
 Point Positioning  
 45° 44' 23.782431" N      X      4026893.367  
 25° 26' 42.341345" E      Y      1915994.979  
 582.551      Z      4545538.255

To Station:  
 Data file:  
 Antenna Height (meters):  
 tpa323  
 34380742.RNX  
 2.102 True Vertical

WGS 84 Position:  
 45° 44' 36.134981" N      X      4026645.796  
 25° 26' 42.250336" E      Y      1915875.006  
 579.775      Z      4545802.449



Start Time: 14/03/08 12:25:15.00 GPS (1470 476715.00)  
 Stop Time: 14/03/08 13:05:30.00 GPS (1470 479130.00)  
 Occupation Time 00:40:15.00 Meas. Interval (seconds): 15.00

Solution Type: L1 fixed double difference  
 Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
 Met Data: Standard  
 Baseline Slope Distance 381.422 Std. Dev. (meters): 0.000827

Normal Section Azimuth: 359° 42' 15.971513" Forward  
 Vertical Angle: -0° 25' 07.325159" Backward

Baseline Components (meters): dx -247.570 dy -119.973 dz 264.194  
 Standard Deviations (meters): dn 381.407 de -1.968 du 0.001836  
 0.000830 dh -2.776 dh 0.001836

Variance Ratio 9.6  
 Reference Variance: 2.898

A posteriori Covariance Matrix:  
 1.124789E-006  
 6.746425E-007  
 1.138965E-006

Variance Ratio Cutoff: 1.5  
 Reference Variance: 2.898

Observables: L1 phase Count/Rejected RMS: 892/2 0.006

Project Name: gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00007124.SSF

From Station: tpa317  
 Data file: 33440743.RNX  
 Antenna Height (meters): 1.666 True Vertical  
 Position Quality: Point Positioning

WGS 84 Position: 45° 40' 31.463351" N 4030284.360  
 25° 28' 56.868744" E 1920833.067  
 592.824 4540536.403

To Station:  
Data file:  
Antenna Height (meters):

tpa318  
76600743.RNX  
1.391 True Vertical

WGS 84 Position:

45° 40' 52.655357" N X 4030184.675  
25° 28' 22.243169" E Y 1919955.403  
593.689 Z 4540994.196

Start Time:

14/03/08 14:30:30.00 GPS (1470 484230.00)

Stop Time:

14/03/08 15:17:45.00 GPS (1470 487065.00)

Occupation Time

00:47:15.00

15.00

(1470 487065.00)

(1470 484230.00)

(1470 487065.00)

15.00

Solution Type:  
Solution Acceptability:

L1 fixed double difference  
Passed ratio test

Ephemeris:

Broadcast

Met Data:

Standard

Baseline Slope Distance

994.890

0.000951

0.000951

Normal Section Azimuth:  
Vertical Angle:

311° 07' 40.232838" Forward  
0° 02' 43.177331" Backward

Baseline Components (meters):  
Standard Deviations (meters):

dx -99.685 dy -877.664 dz 457.793  
0.003793 0.001255 0.002449

dn

654.380 de -749.394 du 0.787  
0.001527 0.001260 0.004247

dh

0.865  
0.004247

Aposteriori Covariance Matrix:

1.438387E-005  
3.037760E-006  
7.903789E-006  
1.575705E-006  
1.902203E-006  
5.996975E-006

Variance Ratio Cutoff:  
Reference Variance:

5.6  
6.677  
1.5

Observable Count/Rejected RMS:

L1 phase 827/0 0.011

Project Name:  
Processed:

gabirad  
15 March 2008 8:00

Solution Output File (SSF):

WAVE 2.35  
00007128.SSF

From Station:  
Data file:

tpa318  
76600743.RNX

Antenna Height (meters):  
Position Quality:

WGS 84 Position:

1.391 True Vertical  
Point Positioning  
45° 40' 52.655357" N  
25° 28' 22.243169" E  
593.689

X 4030184.675  
Y 1919955.403  
Z 4540994.196

To Station:  
Data file:  
Antenna Height (meters):

tpa322  
76580742.RNX  
1.392 True Vertical

WGS 84 Position:

45° 43' 41.107013" N  
25° 29' 13.050874" E  
566.156

X 4026333.790  
Y 1919337.870  
Z 4544606.789

Start Time:  
Stop Time:  
Occupation Time Meas. Interval (seconds):

14/03/08 14:20:00.00 GPS (1470 483600.00)  
14/03/08 14:41:30.00 GPS (1470 484890.00)  
00:21:30.00 15.00

Solution Type:  
Solution Acceptability:

Iono free fixed double difference  
Passed ratio test

Ephemeris:  
Met Data:  
Baseline Slope Distance

Broadcast Standard  
5316.154 Std. Dev. (meters): 0.004769

Normal Section Azimuth:  
Vertical Angle:

Forward  
11° 55' 39.260579"  
-0° 19' 14.344072"

Backward  
191° 56' 15.625600"  
0° 16' 22.196134"

Baseline Components (meters):  
Standard Deviations (meters):

dx -3850.886 dy -617.533 dz 3612.593  
0.009361 0.002970 0.005719  
dn 5201.295 de 1098.699 du -29.751  
0.004384 0.003979 0.009701

Aposteriori Covariance Matrix:

8.762865E-005  
9.743283E-006  
4.002583E-005  
8.822905E-006  
4.390498E-006  
3.270581E-005

Variance Ratio Cutoff:  
Reference Variance:

10.6  
2.508  
1.5

Observable Count/Rejected RMS:

Iono free phase 372/0 0.018

Project Name:  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00007184.SSF

From Station: tpa319  
 Data file: 33440742.RNX  
 Antenna Height (meters): 1.629 True Vertical  
 Position Quality: Point Positioning

WGS 84 Position: 45° 42' 15.224544" N 4029048.998  
 25° 27' 26.584010" E 1918080.589  
 583.608 4542767.788

To Station: tpa320  
 Data file: 76600742.RNX  
 Antenna Height (meters): 1.454 True Vertical

WGS 84 Position: 45° 42' 19.989696" N 4028948.258  
 25° 27' 27.159131" E 1918046.410  
 583.120 4542870.190

Start Time: 14/03/08 12:46:00.00 GPS (1470 477960.00)  
 Stop Time: 14/03/08 13:33:00.00 GPS (1470 480780.00)  
 Occupation Time 00:47:00.00 15.00

Solution Type: L1 fixed double difference  
 Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
 Met Data: Standard  
 Baseline Slope Distance Std. Dev. (meters): 147.658 0.001303

Normal Section Azimuth: 4° 50' 00.886347" Forward  
 Vertical Angle: -0° 11' 23.299743" Backward

Baseline Components (meters): dz -34.179 102.401  
 Standard Deviations (meters): 0.001628 0.001545 0.002410

Baseline Components (meters): du 12.442 -0.489  
 Standard Deviations (meters): 0.001343 0.001089 0.002803

Baseline Components (meters): dh -0.487 0.002803  
 Standard Deviations (meters): 0.001303 0.002803

Aposteriori Covariance Matrix:  
 2.649329E-006  
 1.609290E-006 2.386377E-006

2.657117E-006 1.404983E-006 5.807866E-006

Variance Ratio Cutoff: 3.6  
Reference Variance: 8.063  
1.5

Observable Count/Rejected RMS: 911/0 0.009

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF): 00007132.SSF

From Station: tpa322  
Data file: 76580742.RNX  
Antenna Height (meters): 1.392 True Vertical  
Positioning: Point Positioning

WGS 84 Position: 45° 43' 41.107013" N X 4026333.790  
25° 29' 13.050874" E Y 1919337.870  
566.156 Z 4544606.789

To Station: tpa321  
Data file: 16240742.RNX  
Antenna Height (meters): 1.652 True Vertical

WGS 84 Position: 45° 43' 29.297385" N X 4026762.533  
25° 28' 52.522309" E Y 1919050.439  
569.407 Z 4544354.566

Start Time: 14/03/08 13:39:00.00 GPS (1470 481140.00)  
Stop Time: 14/03/08 14:37:15.00 GPS (1470 484635.00)  
Occupation Time 00:58:15.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance Std. Dev. (meters): 574.503 0.001772

Normal Section Azimuth: 230° 36' 10.630511" Forward  
Vertical Angle: 0° 19' 17.779673" Backward

Baseline Components (meters): dx 428.743 dy -287.431 dz -252.223  
Standard Deviations (meters): 0.002992 0.001431 0.002112

dn -364.626 de -443.949 du 3.225

0.001595 0.001678 0.003178  
3.251  
0.003178

dh  
4.460923E-006

8.949337E-006  
2.048591E-006  
6.563147E-007  
6.738070E-008  
4.205859E-006

Variance Ratio Cutoff: 1.5  
Reference Variance: 13.035

Observable Count/Rejected RMS: 1032/15 0.014

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF): 00007180.SSF

From Station: tpa323  
Data file: 34380742.RNX  
Antenna Height (meters): 2.102 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 44' 36.134981" N 4026645.796  
25° 26' 42.250336" E 1915875.006  
579.775 4545802.449

To Station: tpa319  
Data file: 33440742.RNX  
Antenna Height (meters): 1.629 True Vertical

WGS 84 Position: 45° 42' 15.224544" N 4029048.998  
25° 27' 26.584010" E 1918080.589  
583.608 4542767.788

Start Time: 14/03/08 12:36:15.00 GPS (1470 477375.00)  
Stop Time: 14/03/08 13:07:45.00 GPS (1470 479265.00)  
Occupation Time 00:31:30.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 4455.237

Std. Dev. (meters): 0.001499

Forward Backward

Normal Section Azimuth:  
Vertical Angle:

167° 34' 05.538876"  
0° 01' 45.296260"

347° 34' 37.280941"  
-0° 04' 09.565633"

Baseline Components (meters):  
Standard Deviations (meters):

dx: 2403.202 dy 2205.583  
0.001719 0.001373

dz -3034.661  
0.002869

dn

-4350.775 de  
0.001483

du 959.111  
0.000894

dh 3.832  
0.003174

Aposteriori Covariance Matrix:

2.956024E-006  
1.652465E-006 1.883809E-006  
3.396338E-006 1.900953E-006

8.233701E-006

Variance Ratio Cutoff:  
Reference Variance:

3.7 1.5  
6.609

Observable Count/Rejected RMS:

L1 phase 687/8 0.009

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35

Solution Output File (SSF):

00007176.SSF

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:

tpa320  
34380742.RNX  
2.102 True Vertical  
Point Positioning

WGS 84 Position:

45° 44' 36.134981" N X 4026645.796  
25° 26' 42.250336" E Y 1915875.006  
579.775 Z 4545802.449

To Station:  
Data file:  
Antenna Height (meters):

tpa320  
76600742.RNX  
1.454 True Vertical

WGS 84 Position:

45° 42' 19.989782" N X 4028948.271  
25° 27' 27.159373" E Y 1918046.423  
583.148 Z 4542870.211

Start Time:  
Stop Time:  
Occupation Time

14/03/08 12:46:00.00 GPS (1470 477960.00)  
14/03/08 13:07:45.00 GPS (1470 479265.00)  
00:21:45.00 15.00

Meas. Interval (seconds):

Solution Type:

L1 fixed double difference

Solution Acceptability:

Passed ratio test

Ephemeris:

Met Data:

Baseline Slope Distance      Std. Dev. (meters):

Broadcast

Standard

4314.448

0.001579

Normal Section Azimuth:

Vertical Angle:

Forward

166° 59' 11.123959"

0° 01' 31.365969"

Backward

346° 59' 43.278342"

-0° 03' 51.074299"

Baseline Components (meters):

Standard Deviations (meters):

dx

2302.475

dy

2171.416

dn

0.001860

0.001557

dx

-4203.638

de

971.536

dn

0.001540

0.001063

dx

3.459734E-006

dy

1.915239E-006

dn

4.032698E-006

2.424214E-006

Aposteriori Covariance Matrix:

3.459734E-006

1.915239E-006

4.032698E-006

2.424214E-006

2.162240E-006

9.240194E-006

Variance Ratio

3.8

1.5

Reference Variance:

4.937

Observable

Count/Rejected

L1 phase

463/0

RMS: 0.008

Project Name:

Processed:

gabirac

15 March 2008 8:00

WAVE 2.35

00007148.SSF

Solution Output File (SSF):

From Station:

Data file:

Antenna Height (meters):

Position Quality:

tpa325

16240741.RNX

1.559 True Vertical

Point Positioning

WGS 84 Position:

X

Y

Z

45° 45' 25.292164" N

25° 23' 18.405417" E

593.162

4027563.448

1911432.522

4546871.154

To Station:

Data file:

Antenna Height (meters):

s3

17840742.RNX

1.831 True Vertical

WGS 84 Position:

X

Y

45° 44' 23.762698" N

25° 26' 42.341350" E

4026893.358

1915994.975



582.546 Z 4545538.258

Start Time: 14/03/08 12:17:45.00 GPS (1470 476265.00)  
Stop Time: 14/03/08 13:05:30.00 GPS (1470 479130.00)  
Occupation Time 00:47:45.00 Meas. Interval (seconds): 15.00

Solution Type: Iono free fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 4800.168 Std. Dev. (meters): 0.003878

Normal Section Azimuth: 113° 17' 12.141425" Forward  
Vertical Angle: -0° 03' 53.655669" 293° 19' 38.217778" Backward

Baseline Components (meters): dx -670.090 dy 4562.453 dz -1332.896  
Standard Deviations (meters): 0.005938 0.005236 0.008407

dn -1897.656 de 4409.123 du -12.419  
0.004466 0.003342 0.010111

dh -10.615  
0.010112

Aposteriori Covariance Matrix:  
3.525626E-005  
2.283537E-005 2.742089E-005  
3.408772E-005 2.358904E-005 7.067549E-005

Variance Ratio 4.2  
Reference Variance: 10.080  
Cutoff: 1.5

Observable Count/Rejected RMS: Iono free phase 1063/3 0.038

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF): 00007140.SSF

From Station: tpa325  
Data file: 16240741.RNX  
Antenna Height (meters): 1.559 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 45' 25.292164" N X 4027563.448  
25° 23' 18.405417" E Y 1911432.522  
593.162 Z 4546871.154

To Station:  
Data file:  
Antenna Height (meters):

tpa319  
33440742.RNX  
1.629 True Vertical

WGS 84 Position:

45° 42' 15.224600" N X 4029048.980  
25° 27' 26.583607" E Y 1918080.571  
583.575 Z 4542767.766

Start Time:  
Stop Time:  
Occupation Time Meas. Interval (seconds):

14/03/08 12:36:15.00 GPS (1470 477375.00)  
14/03/08 13:06:45.00 GPS (1470 479205.00)  
00:30:30.00 15.00

Solution Type:  
Solution Acceptability:

L1 fixed double difference  
Passed ratio test

Ephemeris:  
Met Data:  
Baseline Slope Distance Std. Dev. (meters):

Broadcast  
Standard  
7952.431 0.002265

Normal Section Azimuth:  
Vertical Angle:

137° 32' 03.420410" Forward  
-0° 06' 17.246364" Backward  
317° 35' 01.132900"  
0° 02' 00.076446"

Baseline Components (meters):  
Standard Deviations (meters):

dx 1485.532 dy 6648.049 dz -4103.388  
0.002909 0.002460 0.004602

Baseline Components (meters):  
Standard Deviations (meters):

dn -5866.351 de 5369.066 du -14.545  
0.002366 0.001624 0.005240

Baseline Components (meters):  
Standard Deviations (meters):

dh -9.587 dh 0.005240

Aposteriori Covariance Matrix:

8.464565E-006  
4.980522E-006  
9.328565E-006  
6.053922E-006  
5.555866E-006  
2.117828E-005

Variance Ratio Cutoff:  
Reference Variance:

2.1 1.5  
17.100

Observable Count/Rejected RMS:

L1 phase 674/0 0.017

Project Name:  
Processed:

gabirad  
15 March 2008 8:19

Solution Output File (SSF):

00007212.SSF

From Station:

tpa325

Data file:  
Antenna Height (meters):  
Position Quality:

16240741.RNX  
1.559 True Vertical  
Point Positioning

WGS 84 Position:

45° 45' 25.276715" N  
25° 23' 18.405931" E  
592.192  
X 4027563.141  
Y 1911432.388  
Z 4546870.126

To Station:  
Data file:  
Antenna Height (meters):

tpa320  
76600742.RNX  
1.454 True Vertical

WGS 84 Position:

45° 42' 19.974460" N  
25° 27' 27.159709" E  
582.150  
X 4028947.945  
Y 1918046.275  
Z 4542869.167

Start Time:  
Stop Time:  
Occupation Time

14/03/08 12:46:00.00 GPS (1470 477960.00)  
14/03/08 13:06:45.00 GPS (1470 479205.00)  
00:20:45.00 15.00

Solution Type:  
Solution Acceptability:

Iono free fixed double difference  
Passed ratio test

Ephemeris:  
Met Data:  
Baseline Slope Distance

Broadcast  
Standard  
7852.952  
Std. Dev. (meters): 0.013070

Normal Section Azimuth:  
Vertical Angle:

136° 44' 35.087534" Forward  
-0° 06' 30.724600" Backward  
316° 47' 33.214202"  
0° 02' 16.783120"

Baseline Components (meters):  
Standard Deviations (meters):

dx: 1384.804 dy 6613.887 dz -4000.960  
0.018637 0.020845 0.022653  
dn: -5719.202 de 5381.391 du -14.876  
0.009039 0.012128 0.032653

Aposteriori Covariance Matrix:

3.473209E-004  
3.503366E-004 4.345319E-004  
3.705053E-004 3.715790E-004 5.131782E-004

Variance Ratio Cutoff:  
Reference Variance:

4.2  
13.542  
1.5

Observable Count/Rejected RMS:

Iono free phase 334/0 0.045

Project Name: gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00007144.SSF

From Station: tpa325  
 Data file: 16240741.RNX  
 Antenna Height (meters): 1.559 True Vertical  
 Position Quality: Point Positioning

WGS 84 Position: 45° 45' 25.292164" N X 4027563.448  
 25° 23' 18.405417" E Y 1911432.522  
 593.162 Z 4546871.154

To Station: tpa323  
 Data file: 34380742.RNX  
 Antenna Height (meters): 2.102 True Vertical

WGS 84 Position: 45° 44' 36.135048" N X 4026645.783  
 25° 26' 42.250028" E Y 1915874.992  
 579.751 Z 4545802.433

Start Time: 14/03/08 12:25:15.00 GPS (1470 476715.00)  
 Stop Time: 14/03/08 13:06:45.00 GPS (1470 479205.00)  
 Occupation Time 00:41:30.00 15.00

Solution Type: L1 fixed double difference  
 Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
 Met Data: Standard  
 Baseline Slope Distance 4660.452 Std. Dev. (meters): 0.001459

Normal Section Azimuth: 108° 59' 11.720184" Forward  
 Vertical Angle: -0° 11' 08.780859" Backward

Baseline Components (meters): dx -917.665 dy 4442.471 dz -1068.721  
 Standard Deviations (meters): 0.002348 0.001947 0.003559

dh -1516.255 de 4406.876 du -15.111  
 0.001870 0.001270 0.004107

dh -13.411  
 0.004107

Aposteriori Covariance Matrix: 5.514705E-006

3.220877E-006 3.791564E-006 1.266912E-005  
5.697423E-006 3.436068E-006

Variance Ratio Cutoff: 1.5  
Reference Variance: 15.304

Observable Count/Rejected RMS: 940/0 0.017

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF): 00007152.SSF

From Station: tpa325  
Data file: 16240741.RNX  
Antenna Height (meters): 1.559 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 45' 25.292164" N 4027563.448  
25° 23' 18.405417" E 1911432.522  
593.162 Z 4546871.154

To Station: tpa326  
Data file: 76580741.RNX  
Antenna Height (meters): 1.470 True Vertical

WGS 84 Position: 45° 45' 28.959535" N 4027095.305  
25° 23' 59.866783" E 1912202.254  
576.402 Z 4546938.154

Start Time: 14/03/08 12:04:45.00 GPS (1470 475485.00)  
Stop Time: 14/03/08 13:02:30.00 GPS (1470 478950.00)  
Occupation Time 00:57:45.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 903.401 Std. Dev. (meters): 0.001220

Normal Section Azimuth: 82° 47' 38.167892" Forward  
Vertical Angle: -1° 04' 01.346791" Backward  
262° 48' 07.870332"  
1° 03' 32.187809"

Baseline Components (meters): dx: -468.143 dy: 769.732 dz: 66.999  
Standard Deviations (meters): 0.002438 0.002066 0.003202

dn 113.301 896.110 -16.823  
 0.001835 0.001299 0.003926  
 de du dh  
 -16.760  
 0.003926

Aposteriori Covariance Matrix:  
 5.945655E-006  
 3.731638E-006  
 5.061557E-006  
 4.268855E-006  
 3.334229E-006  
 1.025389E-005

Variance Ratio Cutoff: 1.5  
 Reference Variance: 20.796

Observable Count/Rejected RMS: 1309/8 0.017

Project Name: gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00007164.SSF

From Station: tpa326  
 Data file: 76580741.RNX  
 Antenna Height (meters): 1.470 True Vertical  
 Position Quality: Point Positioning  
 WGS 84 Position: 45° 45' 28.959535" N 4027095.305  
 25° 23' 59.866783" E 1912202.254  
 576.402 4546938.152

To Station: s3  
 Data file: 17840742.RNX  
 Antenna Height (meters): 1.831 True Vertical

WGS 84 Position: 45° 44' 23.782431" N 4026893.367  
 25° 26' 42.341345" E 1915994.979  
 582.551 4545538.255

Start Time: 14/03/08 12:17:45.00 GPS (1470 476265.00)  
 Stop Time: 14/03/08 13:02:30.00 GPS (1470 478950.00)  
 Occupation Time 00:44:45.00 15.00

Solution Type: Ionosphere free fixed double difference  
 Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
 Met Data: Standard  
 Baseline Slope Distance Std. Dev. (meters): 4047.871 0.002322

Normal Section Azimuth: 119° 47' 47.444463" Forward  
 Vertical Angle: 0° 04' 07.953887" Backward  
 299° 49' 43.823036"  
 -0° 06' 18.728375"

Baseline Components (meters): dx: -201.939 dy: 3792.725 dz: -1399.897  
 Standard Deviations (meters): 0.003429 0.003026 0.004682

dn: -2011.471 de: 3512.722 du: 4.866  
 0.002525 0.001905 0.005730

dh: 6.149  
 0.005730

Aposteriori Covariance Matrix:  
 1.175644E-005  
 7.752910E-006 9.159206E-006  
 1.095035E-005 7.639722E-006 2.191871E-005

Variance Ratio Cutoff: 11.0  
 Reference Variance: 3.124

Observable Count/Rejected RMS: Iono free phase 994/0 0.020

Project Name: gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00007160.SSF

From Station: tpa326  
 Data file: 76580741.RNX  
 Antenna Height (meters): 1.470 True Vertical  
 Position Quality: Point Positioning

WGS 84 Position: 45° 45' 28.959535" N X: 4027095.305  
 25° 23' 59.866783" E Y: 1912202.254  
 576.402 Z: 4546938.152

To Station: tpa323  
 Data file: 34380742.RNX  
 Antenna Height (meters): 2.102 True Vertical

WGS 84 Position: 45° 44' 36.135020" N X: 4026645.781  
 25° 26' 42.250061" E Y: 1915874.992  
 579.748 Z: 4545802.431

Start Time: 14/03/08 12:25:15.00 GPS (1470 476715.00)  
 Stop Time: 14/03/08 13:00:30.00 GPS (1470 478950.00)  
 Occupation Time Meas. Interval (seconds): 00:37:15.00 15.00

Solution Type:  
Solution Acceptability:

L1 fixed double difference  
Passed ratio test

Ephemeris:  
Met Data:

Broadcast  
Standard  
3870.523

Std. Dev. (meters):

0.001117

Normal Section Azimuth:  
Vertical Angle:

114° 54' 25.546747" Forward  
0° 01' 55.814790"

294° 56' 21.863472" Backward  
-0° 04' 00.831277"

Baseline Components (meters):  
Standard Deviations (meters):

dx -449.524 dy 3672.739 dz -1135.722  
0.001744 0.001431 0.002600

dn -1630.063 de 3510.532 du 2.173  
0.001378 0.000928 0.003015

dh 3.346  
0.003015

A posteriori Covariance Matrix:

3.041791E-006  
1.767016E-006 2.048137E-006  
3.059131E-006 1.867250E-006 6.762426E-006

Variance Ratio Cutoff:  
Reference Variance:

2.9 1.5  
7.551

Observable Count/Rejected RMS:

L1 phase 850/9 0.010

Project Name:  
Processed:

gabirac  
15 March 2008 8:00  
WAVE 2.35  
00007120.SSF

Solution Output File (SSF):

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:

tpa327  
17840741.RNX  
1.550 True Vertical  
Point Positioning

WGS 84 Position:

45° 46' 17.244627" N X 4027185.849  
25° 22' 06.778317" E Y 1909540.145  
589.001 Z 4547987.236

To Station:  
Data file:

tpa328  
34380741.RNX  
2.102 True Vertical

Antenna Height (meters):

X 4027034.749

WGS 84 Position:



25° 22' 16.723041" E  
587.174

Y  
Z

1909706.314  
4548048.281

Start Time: 14/03/08 11:12:15.00 GPS (1470 472335.00)  
Stop Time: 14/03/08 11:53:00.00 GPS (1470 474780.00)  
Occupation Time 00:40:45.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 232.744 Std. Dev. (meters): 0.000514

Normal Section Azimuth: 67° 24' 40.782950" Forward  
Vertical Angle: -0° 27' 02.363785" Backward

Baseline Components (meters): dx -151.099 dy 166.169 dz 61.045  
Standard Deviations (meters): 0.001563 0.001042 0.001283

Baseline Components (meters): dn 89.397 de 214.882 du -1.831  
Standard Deviations (meters): 0.000955 0.000580 0.001982

dh -1.826  
0.001982

Aposteriori Covariance Matrix:  
2.443467E-006  
1.289533E-006 1.085490E-006  
1.391657E-006 6.341216E-007 1.647103E-006

Variance Ratio 10.4 Cutoff: 1.5  
Reference Variance: 2.925

Observable Count/Rejected RMS: L1 phase 864/0 0.006

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF): 00007116.SSF

From Station: tpa329  
Data file: 76600741.RNX  
Antenna Height (meters): 1.404 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 46' 04.618304" N X 4028621.561  
25° 19' 58.741606" E Y 1907158.844

586.895 2 4547713.781

To Station: tpa327  
Data file: 17840741.RNX  
Antenna Height (meters): 1.550 True Vertical

WGS 84 Position: 45° 46' 17.244627" N 4027185.849  
25° 22' 06.778317" E 1909540.145  
589.001 Z 4547987.236

Start Time: 14/03/08 11:13:00.00 GPS (1470 472380.00)  
Stop Time: 14/03/08 11:57:30.00 GPS (1470 475050.00)  
Occupation Time Meas. Interval (seconds): 00:44:30.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance Std. Dev. (meters): 2794.037 0.000409

Normal Section Azimuth: 81° 57' 58.987283" Forward  
Vertical Angle: 0° 01' 50.343862" Backward  
261° 59' 30.730979"  
-0° 03' 20.543207"

Baseline Components (meters): dx -1435.713 dy 2381.300 dz 273.455  
Standard Deviations (meters): 0.001174 0.000810 0.001029  
dn 390.478 de 2766.616 du 1.495  
0.000803 0.000448 0.001500

dh 2.106  
0.001500

Aposteriori Covariance Matrix:  
1.378640E-006  
7.604463E-007 6.562871E-007  
7.385867E-007 3.397804E-007 1.058981E-006

Variance Ratio Cutoff: 29.9 1.5  
Reference Variance: 1.983

Observable Count/Rejected RMS: L1 phase 941/2 0.005

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF): 00007112.SSF

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:

tpa329  
76600741.RNX  
1.404 True Vertical  
Point Positioning

WGS 84 Position:

X 4028621.561  
Y 1907158.844  
Z 4547713.781

To Station:  
Data file:  
Antenna Height (meters):

tpa328  
34380741.RNX  
2.102 True Vertical

WGS 84 Position:

X 4027034.748  
Y 1909706.313  
Z 4548048.280

Start Time:  
Stop Time:  
Occupation Time Meas. Interval (seconds):

14/03/08 11:13:00.00 GPS (1470 472380.00)  
14/03/08 11:53:00.00 GPS (1470 474780.00)  
00:40:00.00 15.00

Solution Type:  
Solution Acceptability:

L1 fixed double difference  
Passed ratio test

Ephemeris:  
Met Data:

Broadcast  
Standard  
3019.845

Baseline Slope Distance Std. Dev. (meters):

0.000734

Normal Section Azimuth:  
Vertical Angle:

Forward  
260° 52' 55.723123"  
-0° 01' 07.714734"

Baseline Components (meters):  
Standard Deviations (meters):

dx -1586.814 dy 2547.469 dz 334.499  
0.002152 0.001451 0.001760

du

du

479.971 de 2981.458  
0.001317 0.000807

dh 0.278  
0.002730

Aposteriori Covariance Matrix:

4.630236E-006  
2.479505E-006  
2.630133E-006

3.099343E-006

Variance Ratio Cutoff:  
Reference Variance:

5.5  
5.431

1.5

Observable Count/Rejected RMS: L1 phase 847/0 0.008

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF): 00007108.SSF

From Station: tpa330  
Data file: 33440741.RNX  
Antenna Height (meters): 1.638 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 46' 13.361602" N X 4028350.366  
25° 20' 08.826982" E Y 1907271.575  
581.970 Z 4547898.567

To Station: tpa327  
Data file: 17840741.RNX  
Antenna Height (meters): 1.550 True Vertical

WGS 84 Position: 45° 46' 17.244605" N X 4027185.847  
25° 22' 06.778352" E Y 1909540.145  
588.999 Z 4547987.234

Start Time: 14/03/08 11:04:45.00 GPS (1470 471885.00)  
Stop Time: 14/03/08 11:57:30.00 GPS (1470 475050.00)  
Occupation Time 00:52:45.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 2551.544 Std. Dev. (meters): 0.000654

Normal Section Azimuth: 87° 17' 41.889020" Forward  
Vertical Angle: 0° 08' 47.009847" Backward  
267° 19' 06.407894"  
-0° 10' 09.375915"

Baseline Components (meters): dx -1164.519 dy 2268.570 dz 88.667  
Standard Deviations (meters): 0.001804 0.001183 0.001527

Baseline Components (meters): dn 120.418 de 2548.692 du 6.519  
Standard Deviations (meters): 0.001100 0.000673 0.002307

dh 7.029  
0.002307

Aposteriori Covariance Matrix:

3.253124E-006  
1.661999E-006  
1.906373E-006  
1.398362E-006  
8.380600E-007  
2.333071E-006

Variance Ratio Cutoff:  
Reference Variance:

8.6  
5.150  
1.5

Observable Count/Rejected RMS:

1104/0 0.008

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35  
00007104.SSF

Solution Output File (SSF):

From Station: tpa330  
Data file: 33440741.RNX  
Antenna Height (meters): 1.638 True Vertical  
Position Quality: Point Positioning

WGS 84 Position:

45° 46' 13.361602" N  
25° 20' 08.826982" E  
581.970  
X 4028350.366  
Y 1907271.575  
Z 4547898.567

To Station:  
Data file:

tpa328  
34380741.RNX  
2.102 True Vertical

WGS 84 Position:

45° 46' 20.139807" N  
25° 22' 16.723099" E  
587.169  
X 4027034.745  
Y 1909706.313  
Z 4548048.278

Start Time:  
Stop Time:  
Occupation Time

14/03/08 11:12:15.00 GPS  
14/03/08 11:53:00.00 GPS  
00:40:45.00  
(1470 472335.00)  
(1470 474780.00)  
15.00

Meas. Interval (seconds):

Solution Type:

L1 fixed double difference

Solution Acceptability:

Passed ratio test

Ephemeris:

Broadcast

Met Data:

Standard

Baseline Slope Distance

2771.502

Std. Dev. (meters):

0.000950

Normal Section Azimuth:

85° 39' 23.192449"

Vertical Angle:

0° 05' 42.167456"

Forward  
265° 40' 54.837930"  
-0° 07' 11.635181"

Baseline Components (meters):

dx: -1315.622 dy 2434.738 dz 149.710

Standard Deviations (meters):

0.002721 0.001805 0.002128

dn 209.904 de 2763.538 du 4.598  
 0.001525 0.000992 0.003446  
 dn 5.199  
 0.003446

7.401135E-006  
 3.919669E-006  
 4.358102E-006  
 3.256596E-006  
 2.117289E-006  
 4.527080E-006

3.6  
 8.823  
 1.5

L1 phase 868/0 0.010

Project Name: gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00007100.SSF

From Station: tpa330  
 Data file: 33440741.RNX  
 Antenna Height (meters): 1.638 True Vertical  
 Position Quality: Point Positioning

WGS 84 Position: 45° 46' 13.361602" N 4028350.366  
 25° 20' 08.826982" E 1907271.575  
 581.970 4547898.567

To Station: tpa329  
 Data file: 76600741.RNX  
 Antenna Height (meters): 1.404 True Vertical

WGS 84 Position: 45° 46' 04.618304" N 4028621.561  
 25° 19' 58.741606" E 1907158.844  
 586.895 4547713.781

Start Time: 14/03/08 11:13:00.00 GPS (1470 472360.00)  
 Stop Time: 14/03/08 11:57:45.00 GPS (1470 475065.00)  
 Occupation Time 00:44:45.00 15.00

Solution Type: L1 fixed double difference  
 Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
 Met Data: Standard  
 Baseline Slope Distance 346.989 Std. Dev. (meters): 0.000840

Normal Section Azimuth: 218° 54' 49.013556" Forward  
 Vertical Angle: 0° 48' 42.083155" Backward

Baseline Components (meters): dx: 271.195 dy: -112.731 dz: -184.786  
 Standard Deviations (meters): 0.001846 0.001280 0.001540

dx: 271.195 dy: -112.731 dz: -184.786  
 dn: -269.963 de: -217.938 du: 4.916  
 0.001174 0.000707 0.002354

dh: 4.925  
 0.002354

Aposteriori Covariance Matrix:  
 3.407707E-006  
 1.891872E-006 1.639324E-006  
 1.899057E-006 9.247579E-007 2.371610E-006

Variance Ratio Cutoff: 9.9 1.5  
 Reference Variance: 4.641

Observable Count/Rejected RMS: L1 phase 940/0 0.008

Project Name: Gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00007088.SSF

From Station: tpa332  
 Data file: 17840740.RNX  
 Antenna Height (meters): 1.544 True Vertical  
 Position Quality: Point Positioning

WGS 84 Position: 45° 45' 16.223858" N X 4031292.073  
 25° 16' 59.027857" E Y 1904125.314  
 654.059 Z 4546719.416

To Station: tpa331  
 Data file: 34380740.RNX  
 Antenna Height (meters): 2.102 True Vertical

WGS 84 Position: 45° 45' 09.833508" N X 4031370.488  
 25° 17' 03.969404" E Y 1904280.482  
 648.080 Z 4546577.457

Start Time: 14/03/08 09:42:00.00 GPS (1470 466920.00)  
 Stop Time: 14/03/08 10:41:15.00 GPS (1470 470475.00)  
 Occupation Time Meas. Interval (seconds): 00:59:15.00 15.00

Solution Type:  
Solution Acceptability:

L1 fixed double difference  
Passed ratio test

Ephemeris:

Met Data:  
Baseline Slope Distance      Std. Dev. (meters):  
Broadcast  
Standard      0.001628  
224.451

Normal Section Azimuth:  
Vertical Angle:

Forward      Backward  
151° 34' 18.273481"      331° 34' 21.813604"  
-1° 31' 38.529470"      1° 31' 31.268288"

Baseline Components (meters):  
Standard Deviations (meters):

dx      78.415      dy      155.167  
0.002954      0.001895  
dn      -197.315      de      106.814  
0.001609      0.001546

dh      -5.979  
0.004086

Aposteriori Covariance Matrix:

8.725217E-006  
2.764789E-006      3.589200E-006  
6.564050E-006      2.639026E-006      9.357665E-006

Variance Ratio      Cutoff:  
Reference Variance:

3.6      1.5  
24.919

Observable      Count/Rejected      RMS:

L1 phase      1370/0      0.017

Project Name:  
Processed:

gabirac  
15 March 2008 8:00  
WAVE 2.35  
00007076.SSF

Solution Output File (SSF):

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:

tpa333  
76600740.RNX  
1.429 True Vertical  
Point Positioning

WGS 84 Position:

45° 45' 09.422338" N      X      4031678.023  
25° 16' 30.606022" E      Y      1903628.179  
634.366      Z      4546558.774

To Station:  
Data file:  
Antenna Height (meters):

tpa331  
34380740.RNX  
2.102 True Vertical



WGS 84 Position:

45° 45' 09.833558" N 4031370.482  
25° 17' 03.969507" E 1904280.482  
648.075 4546577.454

Start Time:

14/03/08 09:33:00.00 GPS (1470 466380.00)  
Stop Time: 14/03/08 10:32:30.00 GPS (1470 469950.00)  
Occupation Time 00:59:30.00 15.00

Solution Type:

L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris:

Met Data:  
Broadcast Standard  
Baseline Slope Distance 721.408 Std. Dev. (meters): 0.000571

Normal Section Azimuth:  
Vertical Angle:

88° 59' 16.799420" Forward  
1° 05' 08.340504" Backward  
268° 59' 40.698861"  
-1° 05' 31.623741"

Baseline Components (meters):  
Standard Deviations (meters):

dx: -307.541 dy 652.303 dz 18.680  
0.001107 0.000727 0.001112  
dn 12.739 de 721.166 du 13.669  
0.000608 0.000570 0.001515  
dh 13.709  
0.001515

Aposteriori Covariance Matrix:

1.225631E-006  
4.274775E-007 5.283202E-007  
8.746205E-007 4.089796E-007 1.237156E-006

Variance Ratio Cutoff:  
Reference Variance:

19.8  
3.326 1.5

Observable Count/Rejected RMS:

L1 phase 1367/0 0.008

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35  
00007068.SSF

Solution Output File (SSF):

From Station: tpa333  
Data file: 76600740.RNX  
Antenna Height (meters): 1.429 True Vertical  
Position Quality: Point Positioning

WGS 84 Position:

45° 45' 09.422338" N 4031678.023

25° 16' 30.606022" E 1903628.179  
634.366 Z 4546558.774

To Station:  
Data file: tpa332  
Antenna Height (meters): 17840740.RNX  
1.544 True Vertical

WGS 84 Position: 45° 45' 16.223839" N 4031292.072  
25° 16' 59.027925" E 1904125.316  
654.059 Z 4546719.415

Start Time: 14/03/08 09:42:00.00 GPS (1470 466920.00)  
Stop Time: 14/03/08 10:32:30.00 GPS (1470 469950.00)  
Occupation Time 00:50:30.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 649.545 Std. Dev. (meters): 0.001645

Normal Section Azimuth: 71° 07' 27.595651" Forward  
Vertical Angle: 1° 44' 03.942659" Backward

Baseline Components (meters): dx -385.951 dy 497.137 dz 160.641  
Standard Deviations (meters): 0.003126 0.002208 0.003229  
dn 210.042 de 614.333 du 19.660  
0.001780 0.001687 0.004366

Aposteriori Covariance Matrix:  
9.774079E-006  
3.788102E-006 4.877048E-006  
7.173477E-006 3.472191E-006 1.042627E-005

Variance Ratio Cutoff: 3.5  
Reference Variance: 25.859 1.5

Observable Count/Rejected RMS: L1 phase 1172/3 0.016

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35

Solution Output File (SSF): 00007072.SSF

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:

tpa333  
76600740.RNX  
1.429 True Vertical  
Point Positioning

WGS 84 Position:

45° 45' 09.422338" N  
25° 16' 30.606022" E  
634.366

To Station:  
Data file:

33440740.RNX  
1.486 True Vertical

Antenna Height (meters):

WGS 84 Position:

45° 45' 12.932713" N  
25° 16' 38.004605" E  
647.939

Start Time:

14/03/08 09:33:30.00 GPS

Stop Time:

14/03/08 10:32:30.00 GPS

Occupation Time Meas. Interval (seconds):

00:59:00.00 (1470 466410.00)  
(1470 469950.00)  
15.00

Solution Type:

L1 fixed double difference

Solution Acceptability:

Passed ratio test

Ephemeris:

Broadcast

Met Data:

Standard

Baseline Slope Distance Std. Dev. (meters):

193.669 0.000466

Normal Section Azimuth:

Forward

55° 52' 15.839463"

235° 52' 21.140029"

Vertical Angle:

4° 01' 04.915832"

-4° 01' 11.158648"

Baseline Components (meters):

dy

-129.930

dz

85.353

Standard Deviations (meters):

0.000887

0.000584

0.000898

dn

108.393

du

13.570

de

0.000490

dh

0.001218

Apriori Covariance Matrix:

7.869509E-007

2.738922E-007

3.413324E-007

5.647752E-007

2.634349E-007

8.055107E-007

Variance Ratio Cutoff:

30.2

1.5

Reference Variance:

2.185

Observable Count/Rejected RMS: 1373/0 0.006

Project Name: gabirad  
Processed: 15 March 2008 8:00  
Solution Output File (SSF): 00007084.SSF

From Station: tpa334  
Data file: 33440740.RNX  
Antenna Height (meters): 1.486 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 45' 12.932713" N 4031548.093  
25° 16' 38.004605" E 1903743.681  
647.939 Z 4546644.127

To Station: tpa331  
Data file: 34380740.RNX  
Antenna Height (meters): 2.102 True Vertical

WGS 84 Position: 45° 45' 09.833554" N 4031370.481  
25° 17' 03.969519" E 1904280.481  
648.073 Z 4546577.453

Start Time: 14/03/08 09:33:30.00 GPS (1470 466410.00)  
Stop Time: 14/03/08 10:38:30.00 GPS (1470 470310.00)  
Occupation Time 01:05:00.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 569.338 Std. Dev. (meters): 0.000385

Normal Section Azimuth: 99° 40' 24.651309" Forward  
Vertical Angle: 0° 00' 39.404649" Backward

Baseline Components (meters): dx: -177.611 dy 536.800 dz -66.674  
Standard Deviations (meters): dn -95.668 de 561.243 du 0.109  
0.000409 0.000392 dh 0.001041

Aposteriori Covariance Matrix:

6.264068E-007	1.980250E-007	5.809099E-007
1.583469E-007	1.585671E-007	
4.333521E-007		

Variance Ratio Cutoff: 1.5  
 Reference Variance: 1.692

Observable	Count/Rejected	RMS:	1473/1	0.004
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Project Name: gabirad  
 Processed: 15 March 2008 8:00  
 WAVE 2.35  
 Solution Output File (SSF): 00007080.SSF

From Station: tpa334  
 Data file: 33440740.RNX  
 Antenna Height (meters): 1.486 True Vertical  
 Position Quality: Point Positioning

WGS 84 Position: 45° 45' 12.932713" N 25° 16' 38.004605" E 647.939

X	4031548.093
Y	1903743.681
Z	4546644.127

To Station: tpa332  
 Data file: 17840740.RNX  
 Antenna Height (meters): 1.544 True Vertical

WGS 84 Position: 45° 45' 16.223858" N 25° 16' 59.027857" E 654.059

X	4031292.073
Y	1904125.314
Z	4546719.416

Start Time: 14/03/08 09:42:00.00 GPS (1470 466920.00)  
 Stop Time: 14/03/08 10:38:30.00 GPS (1470 470310.00)  
 Occupation Time 00:56:30.00 Meas. Interval (seconds): 15.00

Solution Type: L1 fixed double difference  
 Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
 Net Data: Standard  
 Baseline Slope Distance 465.680 Std. Dev. (meters): 0.001483

Normal Section Azimuth: 77° 23' 32.033454" Forward 257° 23' 47.093624" Backward  
 Vertical Angle: 0° 45' 03.148084" -0° 45' 18.181515"

Baseline Components (meters): dx -256.020 dy 381.633 dz 75.289

Standard Deviations (meters):

0.002861      0.001829      0.002976

dn      101.638      de      454.412      du      6.103  
0.001564      0.001498      0.003962

dh      6.120  
0.003962

Aposteriori Covariance Matrix:

8.183401E-006  
2.570077E-006  
6.162469E-006

3.346457E-006  
2.483799E-006  
8.853850E-006

Variance Ratio      Cutoff:  
Reference Variance:

3.4      1.5  
22.304

Observable      Count/Rejected      RMS:

L1 phase      1302/0      0.016

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35  
00007040.SSF

Solution Output File (SSF):

From Station:  
Data file:  
Antenna Height (meters):  
Positioning Quality:

tpa335  
16240740.RNX  
1.543 True Vertical  
Point Positioning

WGS 84 Position:

45° 45' 02.240738" N  
25° 15' 46.744840" E  
576.465

X      4032189.841  
Y      1902821.367  
Z      4546362.571

To Station:  
Data file:  
Antenna Height (meters):

tpa327  
17840741.RNX  
1.550 True Vertical

WGS 84 Position:

45° 46' 17.244724" N  
25° 22' 06.778426" E  
588.979

X      4027185.832  
Y      1909540.140  
Z      4547987.223

Start Time:  
Stop Time:  
Occupation Time

14/03/08 11:04:45.00 GPS      (1470 471885.00)  
14/03/08 11:33:30.00 GPS      (1470 473610.00)  
00:28:45.00      15.00

Meas. Interval (seconds):

Solution Type:  
Solution Acceptability:

Ionc free fixed double difference  
Passed ratio test

Ephemeris:  
Met Data:

Broadcast  
Standard

Baseline Slope Distance      Std. Dev. (meters):      8533.552      0.002058

Normal Section Azimuth:      74° 12' 55.406211"      Forward      Backward  
Vertical Angle:      0° 02' 44.703664"      254° 17' 27.676486"      20.239804"

Baseline Components (meters):      dx      -5004.009      dy      6718.773      dz      1624.652  
Standard Deviations (meters):           0.006617           0.003528           0.005783

dx      2321.311      de      8211.759      du      6.814  
dn      0.003318           0.002178           0.008598

dh      12.514           0.008597

Aposteriori Covariance Matrix:  
4.378438E-005  
1.737665E-005      1.244942E-005  
3.025663E-005      1.017838E-005      3.344389E-005

Variance Ratio      Cutoff:      1.5  
Reference Variance:      2.797

Observable      Count/Rejected      RMS:      Iono free phase      575/1      0.021

Project Name:      gabirad  
Processed:      15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF):      00007036.SSF

From Station:      tpa335  
Data file:      16240740.RNX  
Antenna Height (meters):      1.543 True Vertical  
Position Quality:      Point Positioning

WGS 84 Position:      45° 45' 02.240738" N      X      4032189.841  
25° 15' 46.744840" E      Y      1902821.367  
576.465      Z      4546362.571

To Station:      tpa328  
Data file:      34380741.RNX  
Antenna Height (meters):      2.102 True Vertical

WGS 84 Position:      45° 46' 20.139689" N      X      4027034.750  
25° 22' 16.723109" E      Y      1909706.316  
587.174      Z      4548048.279

Start Time:      14/03/08 11:12:15.00 GPS      (1470 472335.00)  
Stop Time:      14/03/08 11:33:30.00 GPS      (1470 473610.00)

Occupation Time      Meas. Interval (seconds):      00:21:15.00      15.00

Solution Type:      L1 fixed double difference  
Solution Acceptability:      Passed ratio test

Ephemeris:  
Met Data:      Broadcast  
Baseline Slope Distance      Std. Dev. (meters):      8764.651      0.001249

Normal Section Azimuth:      74° 01' 59.445187"      Forward  
Vertical Angle:      0° 01' 50.511373"      Backward

Baseline Components (meters):      dz      1685.708  
Standard Deviations (meters):      0.003382

dx      -5155.091      dy      6884.949  
0.004017      0.002224

dn      2410.986      de      8426.519  
0.002033      0.001358

dh      10.709  
0.005151

Aposteriori Covariance Matrix:  
1.613263E-005  
6.656143E-006      4.944050E-006  
1.079212E-005      3.629753E-006      1.144102E-005

Variance Ratio      Cutoff:      1.8  
Reference Variance:      7.699      1.5

Observable      Count/Rejected      RMS:      429/0      0.011

Project Name:      gabirad  
Processed:      15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF):      00007032.SSF

From Station:      tpa335  
Data file:      16240740.RNX  
Antenna Height (meters):      1.543 True Vertical  
Position Quality:      Point Positioning

WGS 84 Position:      45° 45' 02.240738" N      X      4032189.841  
25° 15' 46.744840" E      Y      1902821.367  
576.465      Z      4546362.571

To Station:      tpa329  
Data file:      76600741.RNX  
Antenna Height (meters):      1.404 True Vertical



WGS 84 Position: 45° 46' 04.618499" N 4028621.549  
25° 19' 58.741566" E 1907158.838  
586.882 Z 4547713.776

Start Time: 14/03/08 11:13:00.00 GPS (1470 472380.00)  
Stop Time: 14/03/08 11:33:30.00 GPS (1470 473610.00)  
Occupation Time 00:20:30.00 15.00

Solution Type: Iono free fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 5776.860 Std. Dev. (meters): 0.002167

Normal Section Azimuth: 70° 29' 57.688226" Forward  
Vertical Angle: 0° 04' 38.649216" Backward  
250° 32' 58.222826"  
-0° 07' 45.198627"

Baseline Components (meters): dx -3568.292 dy 4337.471 dz 1351.205  
Standard Deviations (meters): 0.006917 0.003929 0.005963  
dn 1928.415 de 5445.482 du 7.804  
0.003751 0.002348 dh 10.416  
0.008902

Aposteriori Covariance Matrix:  
4.784466E-005  
2.050186E-005 1.543584E-005  
3.121851E-005 1.091376E-005 3.555397E-005

Variance Ratio 8.8  
Reference Variance: 2.327 Cutoff: 1.5

Observable Count/Rejected RMS: Iono free phase 410/0 0.017

Project Name: gabirad  
Processed: 15 March 2008 8:00  
WAVE 2.35  
Solution Output File (SSF): 00007044.SSF

From Station: tpa335  
Data file: 16240740.RNX  
Antenna Height (meters): 1.543 True Vertical  
Position Quality: Point Positioning

WGS 84 Position:

45° 45' 02.240738" N  
25° 15' 46.744840" E  
576.465

X 4032189.841  
Y 1902821.367  
Z 4546362.571

To Station:

Data file:  
Antenna Height (meters):

tpa330  
33440741.RNX  
1.638 True Vertical

WGS 84 Position:

45° 46' 13.361585" N  
25° 20' 08.826956" E  
581.972

X 4028350.368  
Y 1907271.575  
Z 4547898.568

Start Time:

Stop Time:  
Occupation Time Meas. Interval (seconds):

14/03/08 10:58:00.00 GPS  
14/03/08 11:33:30.00 GPS  
00:35:30.00

(1470 471480.00)  
(1470 473610.00)  
15.00

Solution Type:  
Solution Acceptability:

L1 fixed double difference  
Passed ratio test

Ephemeris:  
Met Data:

Broadcast  
Standard  
6074.965

Baseline Slope Distance Std. Dev. (meters):

0.001236

Normal Section Azimuth:  
Vertical Angle:

68° 46' 57.681815" Forward  
0° 01' 28.880206"

248° 50' 05.445467" Backward  
-0° 04' 45.069018"

Baseline Components (meters):  
Standard Deviations (meters):

dx -3839.474 dy 4450.209 dz 1535.997  
0.003692 0.001974 0.003290

dn 2198.568 de 5663.170 du 2.618  
0.001866 0.001328 0.004807

dh 5.507  
0.004807

Aposteriori Covariance Matrix:

1.363282E-005  
5.060257E-006 3.896424E-006  
9.589155E-006 2.833569E-006 1.082683E-005

Variance Ratio Cutoff:  
Reference Variance:

3.5 1.5  
12.310

Observable Count/Rejected RMS:

L1 phase 740/0 0.014

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35

Solution Output File (SSF):

From Station: tpa335  
Data file: 16240740.RNX  
Antenna Height (meters): 1.543 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 45' 02.240738" N X: 4032189.841  
25° 15' 46.744840" E Y: 1902821.367  
576.465 Z: 4546362.571

To Station: tpa336  
Data file: 76580740.RNX  
Antenna Height (meters): 1.285 True Vertical

WGS 84 Position: 45° 45' 04.949898" N X: 4032170.189  
25° 15' 42.818035" E Y: 1902718.235  
573.792 Z: 4546419.025

Start Time: 14/03/08 10:36:30.00 GPS (1470 470190.00)  
Stop Time: 14/03/08 11:33:15.00 GPS (1470 473595.00)  
Occupation Time Meas. Interval (seconds): 00:56:45.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance Std. Dev. (meters): 119.203 0.001012

Normal Section Azimuth: 314° 34' 54.831582" Forward  
Vertical Angle: -1° 17' 08.971573" 134° 34' 52.018898" Backward  
1° 17' 05.118351"

Baseline Components (meters): dx: -19.652 dy: -103.131 dz: 56.454  
Standard Deviations (meters): 0.002051 0.001103 0.001998  
dn: 83.651 de: -84.881 du: -2.675  
0.001037 0.000789 0.002778  
dh: -2.674 0.002778

Aposteriori Covariance Matrix:  
4.208109E-006  
1.474558E-006 1.216389E-006  
3.216861E-006 9.939349E-007 3.991520E-006

Variance Ratio: 4.8 Cutoff: 1.5

Reference Variance: 7.585  
Observable Count/Rejected RMS: 1242/3 0.010

Project Name: gabirad  
Processed: 15 March 2006 8:00  
WAVE 2.35  
Solution Output File (SSF): 00007060.SSF

From Station: tpa336  
Data file: 76580740.RNX  
Antenna Height (meters): 1.285 True Vertical  
Position Quality: Point Positioning  
WGS 84 Position: 45° 45' 04.949898" N 4032170.189  
25° 15' 42.818035" E 1902718.235  
573.792 4546419.025

To Station: tpa327  
Data file: 17840741.RNX  
Antenna Height (meters): 1.550 True Vertical  
WGS 84 Position: 45° 46' 17.244398" N 4027185.853  
25° 22' 06.779042" E 1909540.164  
589.011 4547987.238

Start Time: 14/03/08 11:04:45.00 GPS (1470 471885.00)  
Stop Time: 14/03/08 11:33:15.00 GPS (1470 473595.00)  
Occupation Time 00:28:30.00 15.00

Solution Type: Iono free fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance 8593.114 Std. Dev. (meters): 0.001835

Normal Section Azimuth: 74° 54' 19.399166" Forward  
Vertical Angle: 0° 03' 46.590705" Backward

Baseline Components (meters): dx -4984.336 dy 6821.929 dz 1568.213  
Standard Deviations (meters): dx 0.005902 dy 0.003136 dz 0.005157  
dh 2237.763 de 8296.622 du 9.440  
0.002953 0.001940 dh 15.219

0.007665

Aposteriori Covariance Matrix:

3.483221E-005  
1.376214E-005  
2.408504E-005

9.835706E-006  
8.060307E-006

2.659175E-005

Variance Ratio Cutoff: 1.5  
Reference Variance: 2.207

Observable Count/Rejected RMS: 571/0 0.017

Project Name: gabirad  
Processed: 15 March 2008 8:00  
Solution Output File (SSF): WAVE.2.35  
00007056.SSF

From Station: tpa336  
Data file: 76580740.RNX  
Antenna Height (meters): 1.285 True Vertical  
Position Quality: Point Positioning

WGS 84 Position: 45° 45' 04.949898" N 4032170.189  
25° 15' 42.818035" E 1902718.235  
573.792 4546419.025

To Station: tpa328  
Data file: 34380741.RNX  
Antenna Height (meters): 2.102 True Vertical

WGS 84 Position: 45° 46' 20.139695" N 4027034.748  
25° 22' 16.723084" E 1909706.314  
587.170 4548048.276

Start Time: 14/03/08 11:12:15.00 GPS (1470 472335.00)  
Stop Time: 14/03/08 11:33:15.00 GPS (1470 473595.00)  
Occupation Time Meas. Interval (seconds): 00:21:00.00 15.00

Solution Type: L1 fixed double difference  
Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
Met Data: Standard  
Baseline Slope Distance Std. Dev. (meters): 8623.858 0.000934

Normal Section Azimuth: 74° 42' 22.453547" Forward  
Vertical Angle: 0° 02' 50.285757" Backward  
254° 47' 04.665593"  
-0° 07' 35.191376"

Baseline Components (meters):  
Standard Deviations (meters):

dx: -5135.441 6988.079 dz 1629.251  
0.003003 0.001656 0.002541

dn 2327.451 8511.368 du 7.285  
0.001526 0.001015 0.003855

dh 13.379  
0.003854

Aposteriori Covariance Matrix:

9.020484E-006  
3.698649E-006 2.741000E-006  
6.043758E-006 2.006459E-006 6.455965E-006

Variance Ratio Cutoff:  
Reference Variance:

2.6  
4.256 1.5

Observable Count/Rejected RMS:

L1 phase 423/0 0.007

Project Name:  
Processed:

gabirad  
15 March 2008 8:00  
WAVE 2.35  
00007052.SSF

Solution Output File (SSF):

From Station:  
Data file:  
Antenna Height (meters):  
Position Quality:

tpa336  
76580740.RNX  
1.285 True Vertical  
Point Positioning

WGS 84 Position:

45° 45' 04.949898" N 4032170.189  
25° 15' 42.818035" E 1903718.235  
573.792 4546419.025

To Station:  
Data file:  
Antenna Height (meters):

tpa329  
76600741.RNX  
1.404 True Vertical

WGS 84 Position:

45° 46' 04.618064" N 4028621.569  
25° 19' 58.742360" E 1907158.866  
586.911 4547713.787

Start Time:  
Stop Time:  
Occupation Time

14/03/08 11:13:00.00 GPS (1470 472380.00)  
14/03/08 11:33:15.00 GPS (1470 473595.00)  
00:20:15.00 15.00

Meas. Interval (seconds):

Solution Type:  
Solution Acceptability:

Iono free fixed double difference  
Passed ratio test

Ephemeris:

Broadcast



Stop Time: 14/03/08 11:33:15.00 GPS (1470 473595.00)  
 Occupation Time Meas. Interval (seconds): 00:35:15.00 15.00

Solution Type: L1 fixed double difference  
 Solution Acceptability: Passed ratio test

Ephemeris: Broadcast  
 Met Data: Standard  
 Baseline Slope Distance Std. Dev. (meters): 6124.785 0.000974

Normal Section Azimuth: Forward  
 Vertical Angle: 69° 47' 55.729269" 249° 51' 06.307523"  
 0° 02' 56.537994" -0° 06' 14.328072"

Baseline Components (meters): dx -3819.823 dy 4553.340 dz 1479.542  
 Standard Deviations (meters): 0.002922 0.001551 0.002602  
 dn 2114.996 de 5748.023 du 5.242  
 0.001472 0.001045 0.003802  
 dh 8.179  
 0.003802

Aposteriori Covariance Matrix:  
 8.538729E-006  
 3.148622E-006 2.404470E-006  
 6.010568E-006 1.764816E-006 6.772006E-006

Variance Ratio Cutoff: 5.8  
 Reference Variance: 7.528 1.5

Observable Count/Rejected RMS: L1 phase 731/0 0.010

\*\*\*\*\* End of Report \*\*\*\*\*



## **Anexa 6.2**

# **REȚEA GEODEZICĂ DE SPRIJIN A3**

**REZULTATELE COMPENSĂRII REȚELEI 3D**

COORDINATE ADJUSTMENT SUMMARY  
 NETWORK = gabirad  
 TIME = Sat Mar 15 08:23:07 2008

Datum = WGS-84  
 Coordinate System = Geographic  
 Zone = Global

Network Adjustment Constraints:  
 2 fixed coordinates in y  
 2 fixed coordinates in x  
 2 fixed coordinates in H

POINT	NAME	OLD COORDS	ADJUST	NEW COORDS	1.00σ
1	BV05				
	LAT=	45° 39' 14.082400"	+0.000000"	45° 39' 14.082400"	FIXED
	LON=	25° 32' 56.273880"	+0.000000"	25° 32' 56.273880"	FIXED
	ELL HT=	585.7180m	+0.0000m	585.7180m	FIXED
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
2	FIX1				
	LAT=	45° 45' 03.250277"	+0.000000"	45° 45' 03.250277"	FIXED
	LON=	25° 15' 45.946806"	+0.000000"	25° 15' 45.946806"	FIXED
	ELL HT=	576.2290m	+0.0000m	576.2290m	FIXED
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
3	km204				
	LAT=	45° 45' 14.763445"	-0.040080"	45° 45' 14.723365"	0.003680m
	LON=	25° 17' 00.170765"	-0.004775"	25° 17' 00.165990"	0.003735m
	ELL HT=	652.9898m	+0.2987m	653.2885m	0.007095m
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
4	s3				
	LAT=	45° 44' 23.782065"	-0.039452"	45° 44' 23.742613"	0.003147m
	LON=	25° 26' 42.341500"	-0.006199"	25° 26' 42.335301"	0.002659m
	ELL HT=	582.5691m	+0.3513m	582.9204m	0.006586m
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
5	tpa317				
	LAT=	45° 40' 31.462986"	-0.040237"	45° 40' 31.422749"	0.003724m
	LON=	25° 28' 56.868897"	-0.005722"	25° 28' 56.863174"	0.003642m
	ELL HT=	592.8690m	+0.3284m	593.1974m	0.008887m
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
6	tpa318				
	LAT=	45° 40' 52.654572"	-0.039954"	45° 40' 52.614618"	0.004018m
	LON=	25° 28' 22.244091"	-0.006145"	25° 28' 22.237946"	0.003713m
	ELL HT=	593.7232m	+0.3293m	594.0526m	0.009421m
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
7	tpa319				
	LAT=	45° 42' 15.224215"	-0.039449"	45° 42' 15.184766"	0.002858m
	LON=	25° 27' 26.584242"	-0.006279"	25° 27' 26.577963"	0.002417m
	ELL HT=	583.6279m	+0.3548m	583.9827m	0.005798m
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
8	tpa320				
	LAT=	45° 42' 19.989463"	-0.039667"	45° 42' 19.949796"	0.003658m
	LON=	25° 27' 27.159701"	-0.006406"	25° 27' 27.153296"	0.003154m
	ELL HT=	583.1766m	+0.3265m	583.5030m	0.007350m
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
9	tpa321				
	LAT=	45° 43' 29.296599"	-0.040341"	45° 43' 29.256258"	0.005383m
	LON=	25° 28' 52.523231"	-0.005670"	25° 28' 52.517560"	0.005881m
	ELL HT=	569.4409m	+0.3245m	569.7654m	0.011013m
	ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
10	tpa322				
	LAT=	45° 43' 41.106227"	-0.040301"	45° 43' 41.065927"	0.005431m

LON=	25° 29'	13.051796"	-0.005906"	25° 29'	13.045890"	0.005625m
ELL HT=		566.1904m	+0.3288m		566.5191m	0.010969m
ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
11 tpa323						
LAT=	45° 44'	36.134662"	-0.039470"	45° 44'	36.095192"	0.002534m
LON=	25° 26'	42.250664"	-0.006504"	25° 26'	42.244160"	0.002192m
ELL HT=		579.8043m	+0.3348m		580.1392m	0.005165m
ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
12 tpa325						
LAT=	45° 45'	25.291778"	-0.039507"	45° 45'	25.252272"	0.004095m
LON=	25° 23'	18.406056"	-0.006511"	25° 23'	18.399544"	0.003273m
ELL HT=		593.2149m	+0.3343m		593.5492m	0.008797m
ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
13 tpa326						
LAT=	45° 45'	28.959169"	-0.039494"	45° 45'	28.919675"	0.003481m
LON=	25° 23'	59.866939"	-0.006038"	25° 23'	59.860901"	0.002840m
ELL HT=		576.4199m	+0.3615m		576.7814m	0.007245m
ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
14 tpa327						
LAT=	45° 46'	17.243684"	-0.039550"	45° 46'	17.204134"	0.002697m
LON=	25° 22'	06.779361"	-0.006492"	25° 22'	06.772870"	0.002275m
ELL HT=		589.0568m	+0.3088m		589.3657m	0.005551m
ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
15 tpa328						
LAT=	45° 46'	20.138982"	-0.039645"	45° 46'	20.099336"	0.002558m
LON=	25° 22'	16.723403"	-0.005905"	25° 22'	16.717497"	0.002195m
ELL HT=		587.2162m	+0.3224m		587.5386m	0.005368m
ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
16 tpa329						
LAT=	45° 46'	04.617791"	-0.039962"	45° 46'	04.577829"	0.002839m
LON=	25° 19'	58.741860"	-0.005756"	25° 19'	58.736105"	0.002338m
ELL HT=		586.9242m	+0.3372m		587.2613m	0.005754m
ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
17 tpa330						
LAT=	45° 46'	13.360682"	-0.039548"	45° 46'	13.321134"	0.002474m
LON=	25° 20'	08.827993"	-0.006575"	25° 20'	08.821418"	0.002166m
ELL HT=		582.0282m	+0.3134m		582.3416m	0.005103m
ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
18 tpa331						
LAT=	45° 45'	09.833124"	-0.040023"	45° 45'	09.793101"	0.002449m
LON=	25° 17'	03.969643"	-0.005839"	25° 17'	03.963804"	0.002421m
ELL HT=		648.1231m	+0.3232m		648.4463m	0.005017m
ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
19 tpa332						
LAT=	45° 45'	16.223474"	-0.040046"	45° 45'	16.183428"	0.003320m
LON=	25° 16'	59.028096"	-0.005917"	25° 16'	59.022179"	0.003277m
ELL HT=		654.1018m	+0.3247m		654.4265m	0.007510m
ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
20 tpa333						
LAT=	45° 45'	09.421974"	-0.040087"	45° 45'	09.381886"	0.002569m
LON=	25° 16'	30.606194"	-0.005885"	25° 16'	30.600309"	0.002533m
ELL HT=		634.4091m	+0.3252m		634.7343m	0.005304m
ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
21 tpa334						
LAT=	45° 45'	12.932349"	-0.040084"	45° 45'	12.892265"	0.002431m
LON=	25° 16'	38.004777"	-0.005866"	25° 16'	37.998911"	0.002401m
ELL HT=		647.9825m	+0.3280m		648.3105m	0.004924m
ORTHO HT=		0.0000m	+0.0000m		0.0000m	NOT KNOWN
22 tpa335						
LAT=	45° 45'	02.240031"	-0.039753"	45° 45'	02.200277"	0.002893m
LON=	25° 15'	46.745137"	-0.005900"	25° 15'	46.739237"	0.002513m

ELL HT=	576.5077m	+0.3281m	576.8358m	0.006475m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN
23 tpa336				
LAT=	45° 45' 04.949185"	-0.039729"	45° 45' 04.909456"	0.002649m
LON=	25° 15' 42.818358"	-0.006069"	25° 15' 42.812289"	0.002359m
ELL HT=	573.8375m	+0.3221m	574.1596m	0.005763m
ORTHO HT=	0.0000m	+0.0000m	0.0000m	NOT KNOWN

## **Anexa 6.3**

# **REȚEA GEODEZICĂ DE SPRIJIN A3**

**REZULTATELE TRANSFORMĂRII COORDONATELOR**

INPUT ETRS89

Project: <Gabi-Bechtel>  
 BV05, 45 39 14.082400 N, 25 32 56.273880 E, 585.718  
 FIX1, 45 45 3.250277 N, 25 15 45.946806 E, 576.229  
 km204, 45 45 14.723365 N, 25 17 0.165990 E, 653.289  
 s3, 45 44 23.742613 N, 25 26 42.335301 E, 582.920  
 tpa317, 45 40 31.422749 N, 25 28 56.863174 E, 593.197  
 tpa318, 45 40 52.614618 N, 25 28 22.237946 E, 594.053  
 tpa319, 45 42 15.184766 N, 25 27 26.577963 E, 583.983  
 tpa320, 45 42 19.949796 N, 25 27 27.153296 E, 583.503  
 tpa321, 45 43 29.256258 N, 25 28 52.517560 E, 569.765  
 tpa322, 45 43 41.065927 N, 25 29 13.045890 E, 566.519  
 tpa323, 45 44 36.095192 N, 25 26 42.244160 E, 580.139  
 tpa325, 45 45 25.252272 N, 25 23 18.399544 E, 593.549  
 tpa326, 45 45 28.919675 N, 25 23 59.860901 E, 576.781  
 tpa327, 45 46 17.204134 N, 25 22 6.772870 E, 589.366  
 tpa328, 45 46 20.099336 N, 25 22 16.717497 E, 587.539  
 tpa329, 45 46 4.577829 N, 25 19 58.736105 E, 587.261  
 tpa330, 45 46 13.321134 N, 25 20 8.821418 E, 582.342  
 tpa331, 45 45 9.793101 N, 25 17 3.963804 E, 648.446  
 tpa332, 45 45 16.183428 N, 25 16 59.022179 E, 654.426  
 tpa333, 45 45 9.381886 N, 25 16 30.600309 E, 634.734  
 tpa334, 45 45 12.892265 N, 25 16 37.998911 E, 648.311  
 tpa335, 45 45 2.200277 N, 25 15 46.739237 E, 576.836  
 tpa336, 45 45 4.909456 N, 25 15 42.812289 E, 574.160  
 ENDF

OUTPUT Stereo70

BV05, 461720.777, 542898.754, +/- 0.040, +/- 0.039  
 FIX1, 472385.064, 520560.744, +/- 0.038, +/- 0.040  
 KM204, 472744.676, 522163.271, +/- 0.038, +/- 0.039  
 S3, 471228.459, 534751.229, +/- 0.040, +/- 0.048  
 TPA317, 464074.549, 537702.042, +/- 0.042, +/- 0.044  
 TPA318, 464724.181, 536948.959, +/- 0.043, +/- 0.045  
 TPA319, 467265.784, 535730.145, +/- 0.040, +/- 0.045  
 TPA320, 467412.933, 535741.746, +/- 0.040, +/- 0.046  
 TPA321, 469562.989, 537574.964, +/- 0.043, +/- 0.041  
 TPA322, 469930.196, 538016.538, +/- 0.042, +/- 0.040  
 TPA323, 471609.724, 534747.135, +/- 0.040, +/- 0.048  
 TPA325, 473104.032, 530334.360, +/- 0.039, +/- 0.043  
 TPA326, 473221.653, 531229.620, +/- 0.040, +/- 0.044  
 TPA327, 474700.259, 528779.373, +/- 0.031, +/- 0.040  
 TPA328, 474790.619, 528993.769, +/- 0.031, +/- 0.040  
 TPA329, 474298.381, 526015.311, +/- 0.031, +/- 0.038  
 TPA330, 474569.168, 526232.039, +/- 0.031, +/- 0.038  
 TPA331, 472592.789, 522245.874, +/- 0.038, +/- 0.039  
 TPA332, 472789.655, 522138.397, +/- 0.038, +/- 0.039  
 TPA333, 472577.571, 521524.999, +/- 0.038, +/- 0.039  
 TPA334, 472686.476, 521684.492, +/- 0.038, +/- 0.039  
 TPA335, 472352.710, 520577.974, +/- 0.038, +/- 0.040  
 TPA336, 472436.054, 520492.844, +/- 0.038, +/- 0.040

## **Anexa 6.4**

# **REȚEA GEODEZICĂ DE SPRIJIN A3**

## **INVENTAR DE COORDONATE**

**INVENTAR DE COORDONATE  
RETEA DE INDESIRE GPS**

SISTEM DE COORDONATE STEREOGRAFIC 1970

Den. Pct.	X	Y
BV05	542898.754	461720.777
FIX1	520560.744	472385.064
KM204	522163.271	472744.676
S3	534751.229	471228.459
TPA317	537702.042	464074.549
TPA318	536948.959	464724.181
TPA319	535730.145	467265.784
TPA320	535741.746	467412.933
TPA321	537574.964	469562.989
TPA322	538016.538	469930.196
TPA323	534747.135	471609.724
TPA325	530334.360	473104.032
TPA326	531229.620	473221.653
TPA327	528779.373	474700.259
TPA328	528993.769	474790.619
TPA329	526015.311	474298.381
TPA330	526232.039	474569.168
TPA331	522245.874	472592.789
TPA332	522138.397	472789.655
TPA333	521524.999	472577.571
TPA334	521684.492	472686.476



## **Anexa 6.5**

# **REȚEA GEODEZICĂ DE SPRIJIN A3**

**SCHIȚA REȚELEI GPS**



**Plan de trasare autostrada**  
**Scara 1:20 000**

# **SCHIȚE DE REPERAJ**

# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

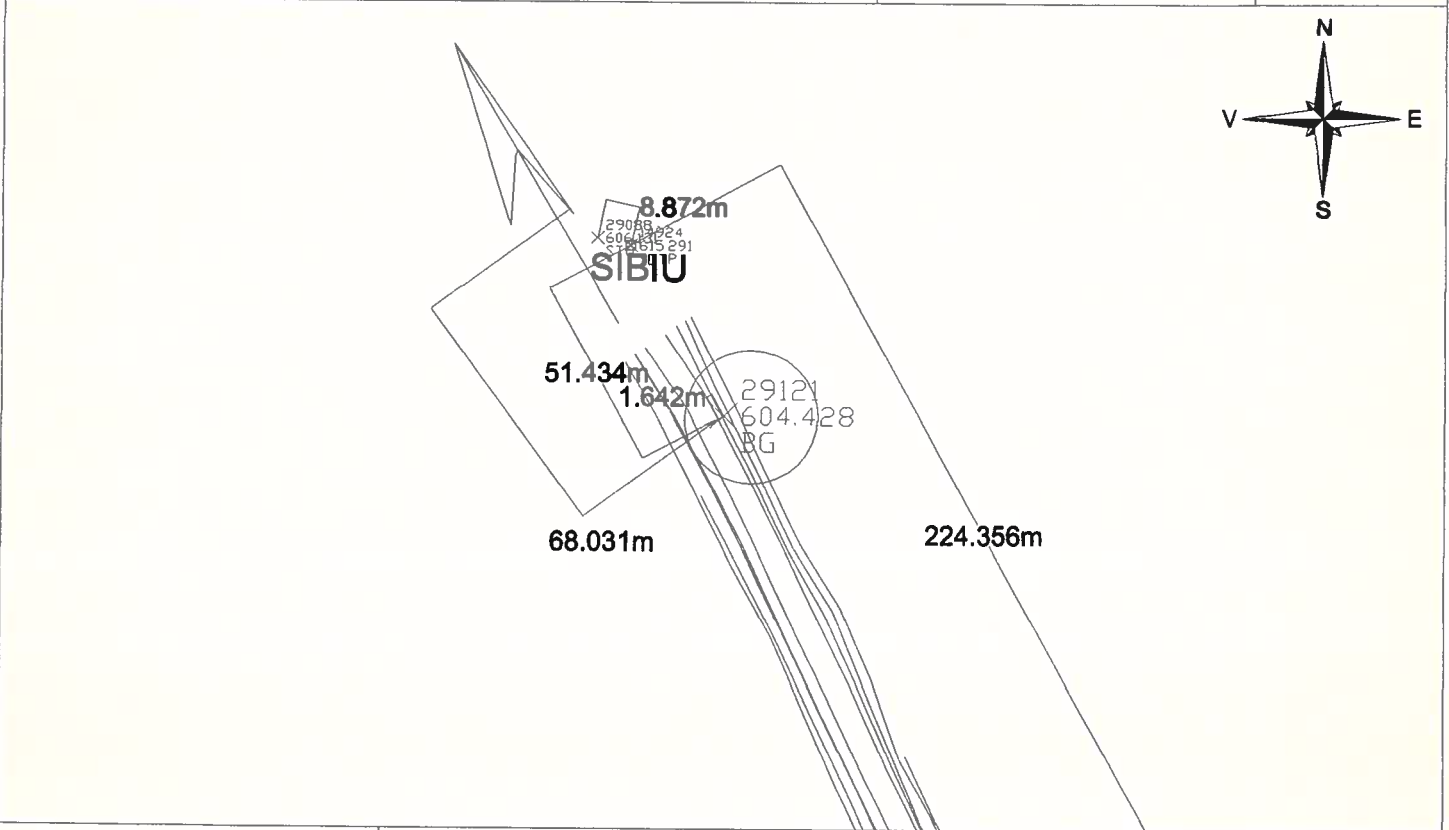
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
29121	522161.811	472743.928	604.428	ST



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 1.642m fata de marginea drumului si la 51.434m fata de punctul 14924.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

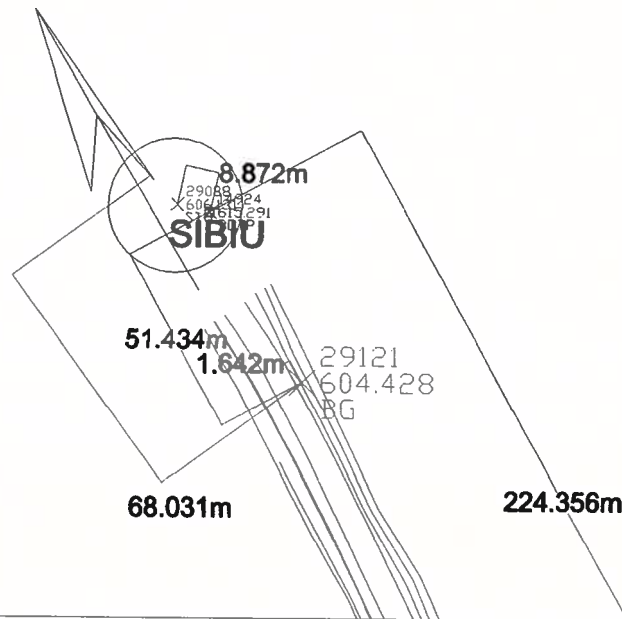
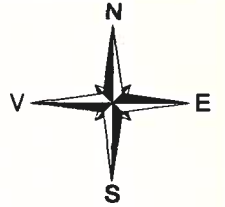
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
29088	522128.558	472791.064	606.131	STQ



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 8.872m fata de punctul 14924 si la 68.031m fata de punctul 29121.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

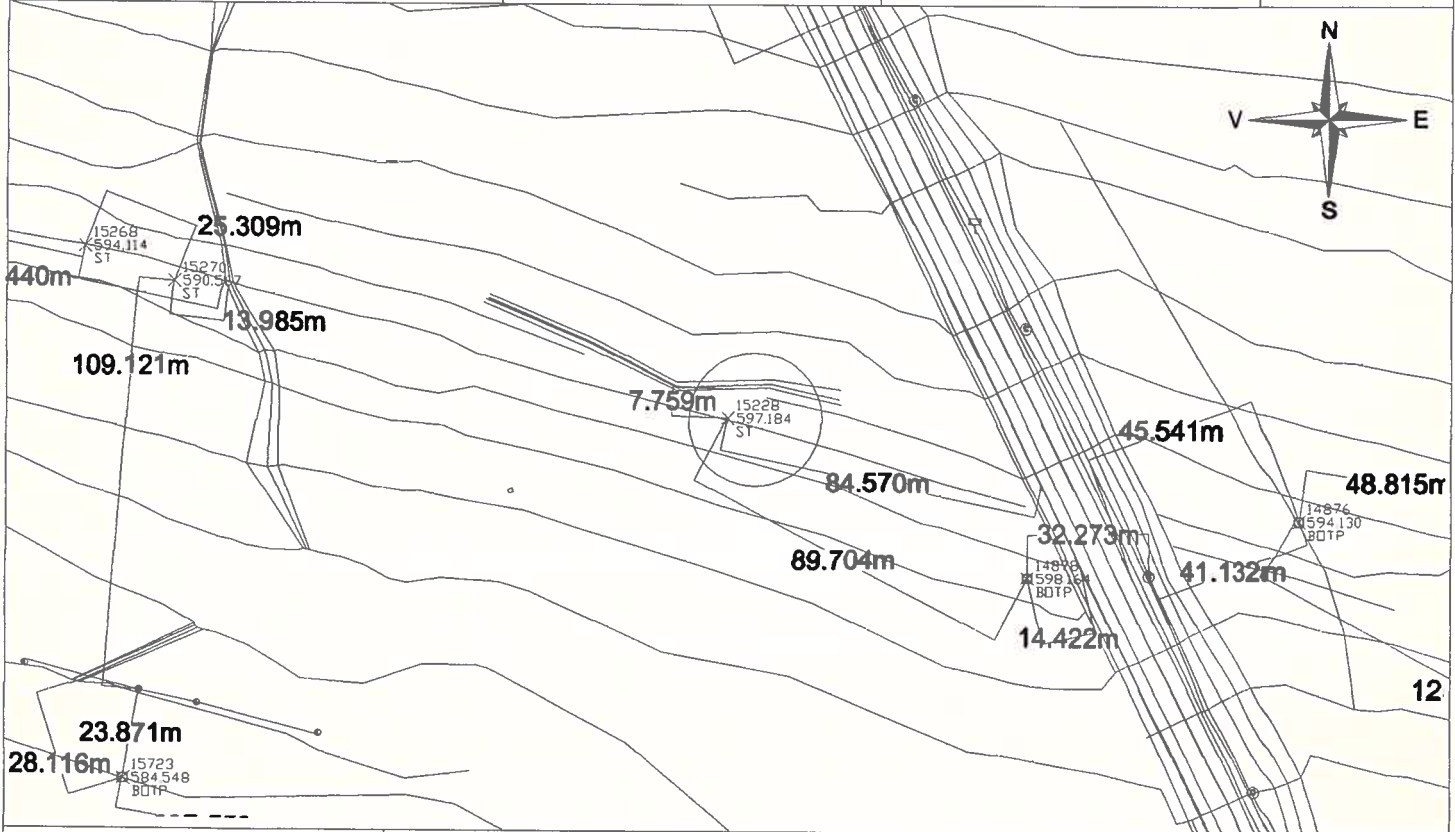
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
15228	522281.231	472322.208	597.184	ST



Descrierea punctului :	materializare = pichet metalic
	Punctul se afla la 84.570m fata de marginea drumului, la 7.759m fata de marginea canalului de irigatii si la 89.704m fata de punctul 14878.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

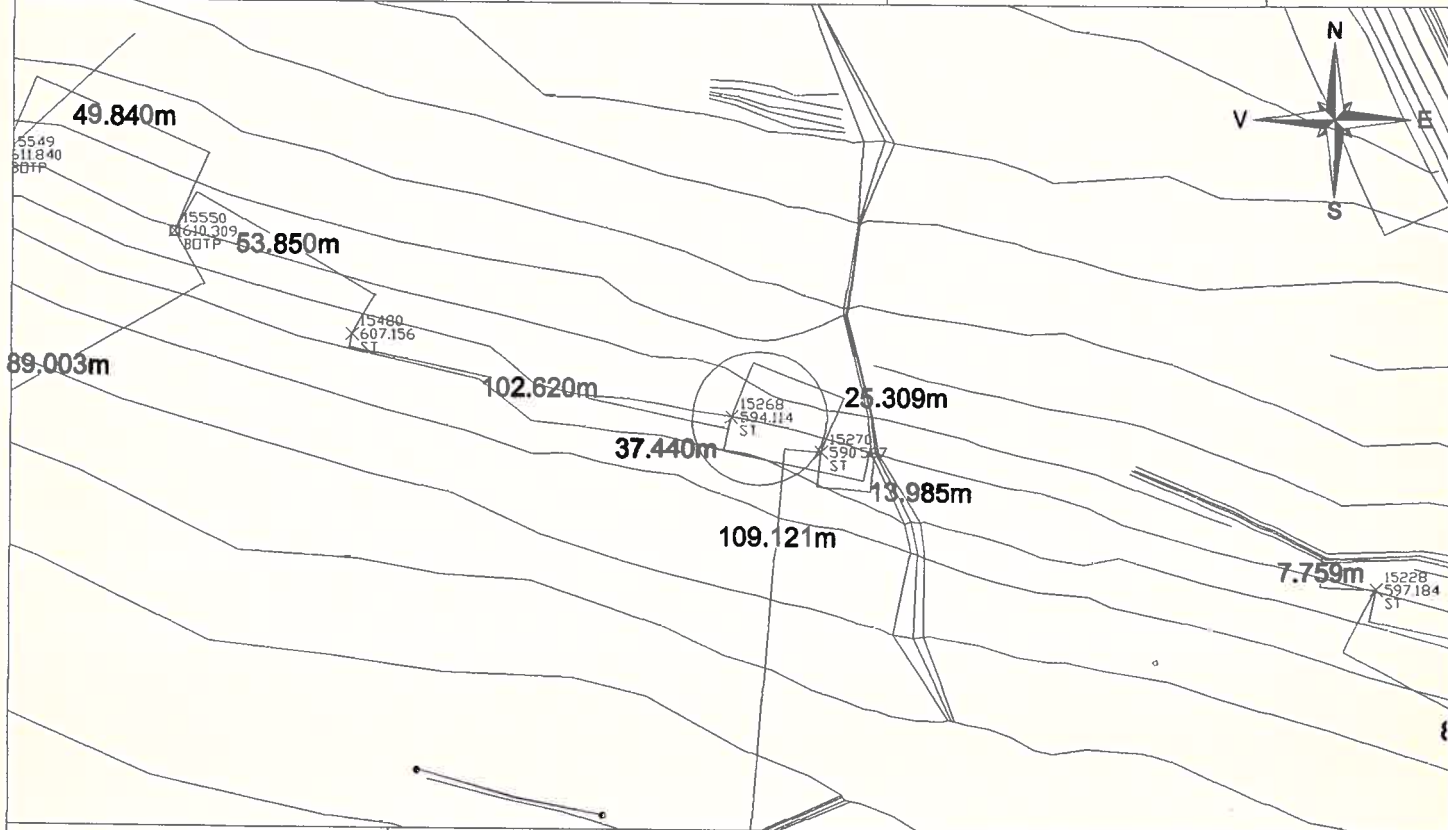
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
15268	522111.806	472367.092	594.114	ST



Descrierea punctului :	materializare = pichet metalic
	Punctul se afla la 37.440m fata de marginea apei si la 25.309m fata de punctul 15270.





# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

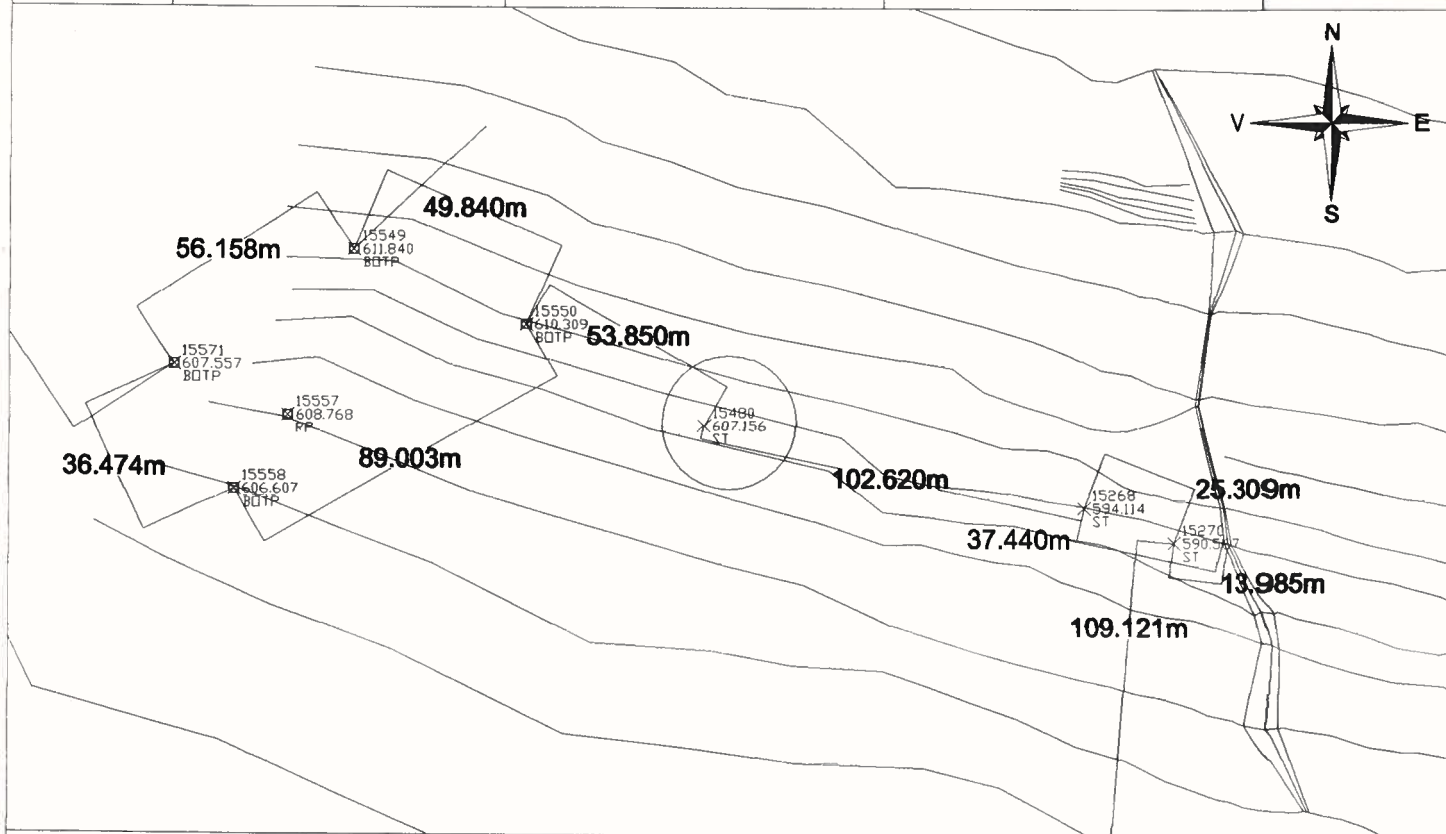
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
15480	522011.467	472388.443	607.156	ST



Descrierea punctului :

materializare = pichet metalic

Punctul se afla la 53.850m fata de punctul 15550 si la 102.620m fata de punctul 15268.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

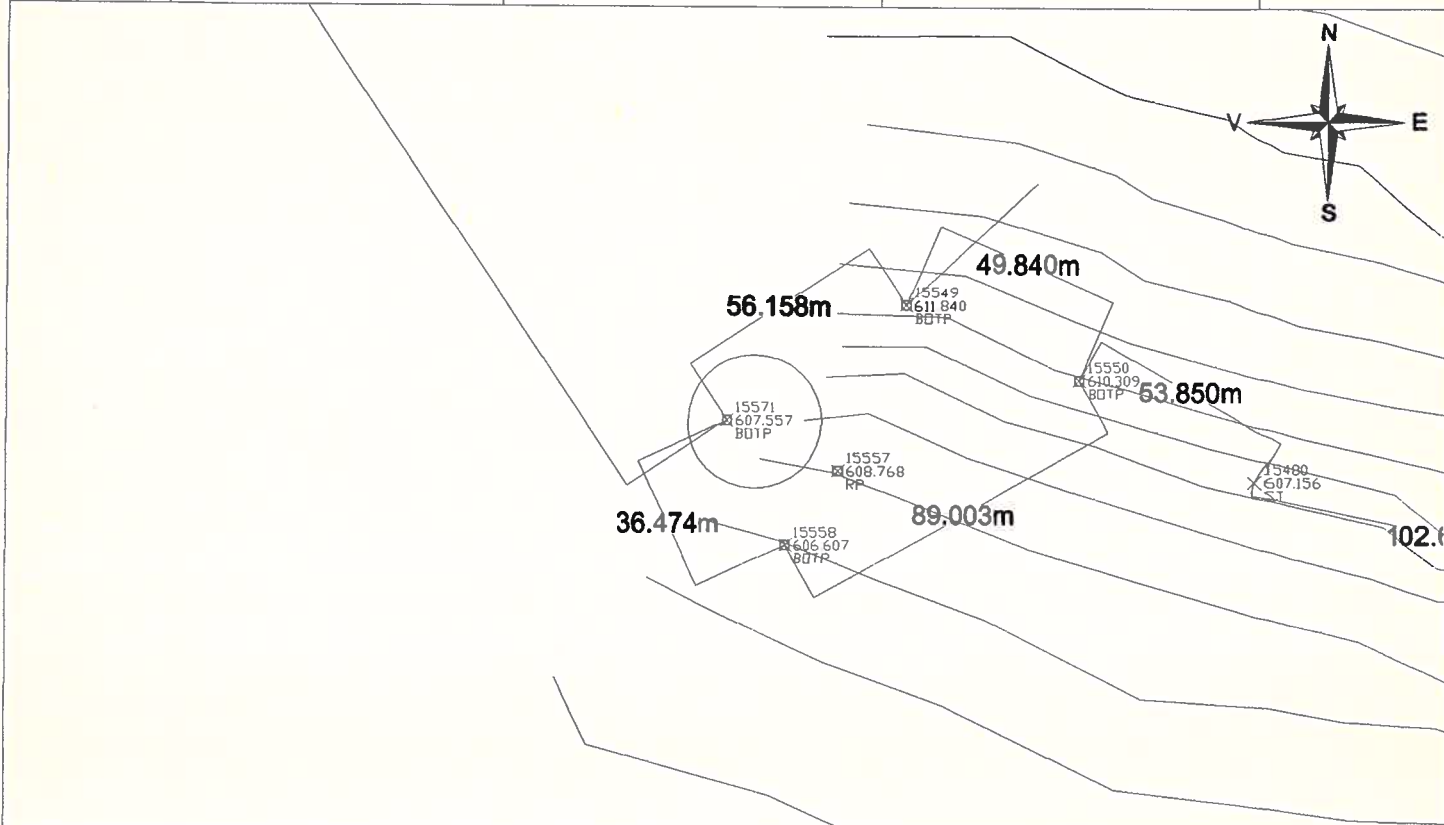
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
15571	521872.069	472404.317	607.557	BOTP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 36.474m fata de punctul 15558 si la 56.158m fata de 15549



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

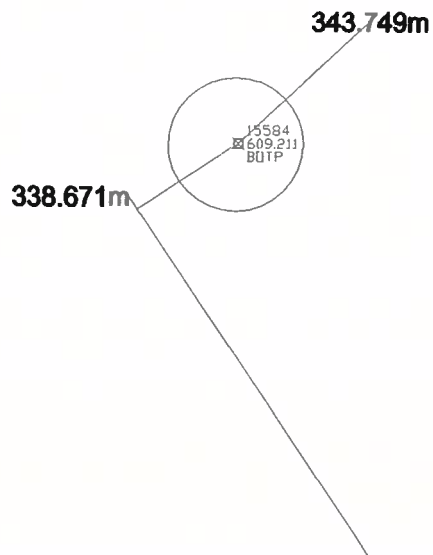
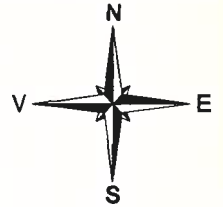
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
15584	521684.194	472686.174	609.211	BOTP



Descrierea punctului : materializare = borna feno

Punctul se afla la 343.749m fata de punctul 15549 si la 338.671m fata de punctul 15571.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

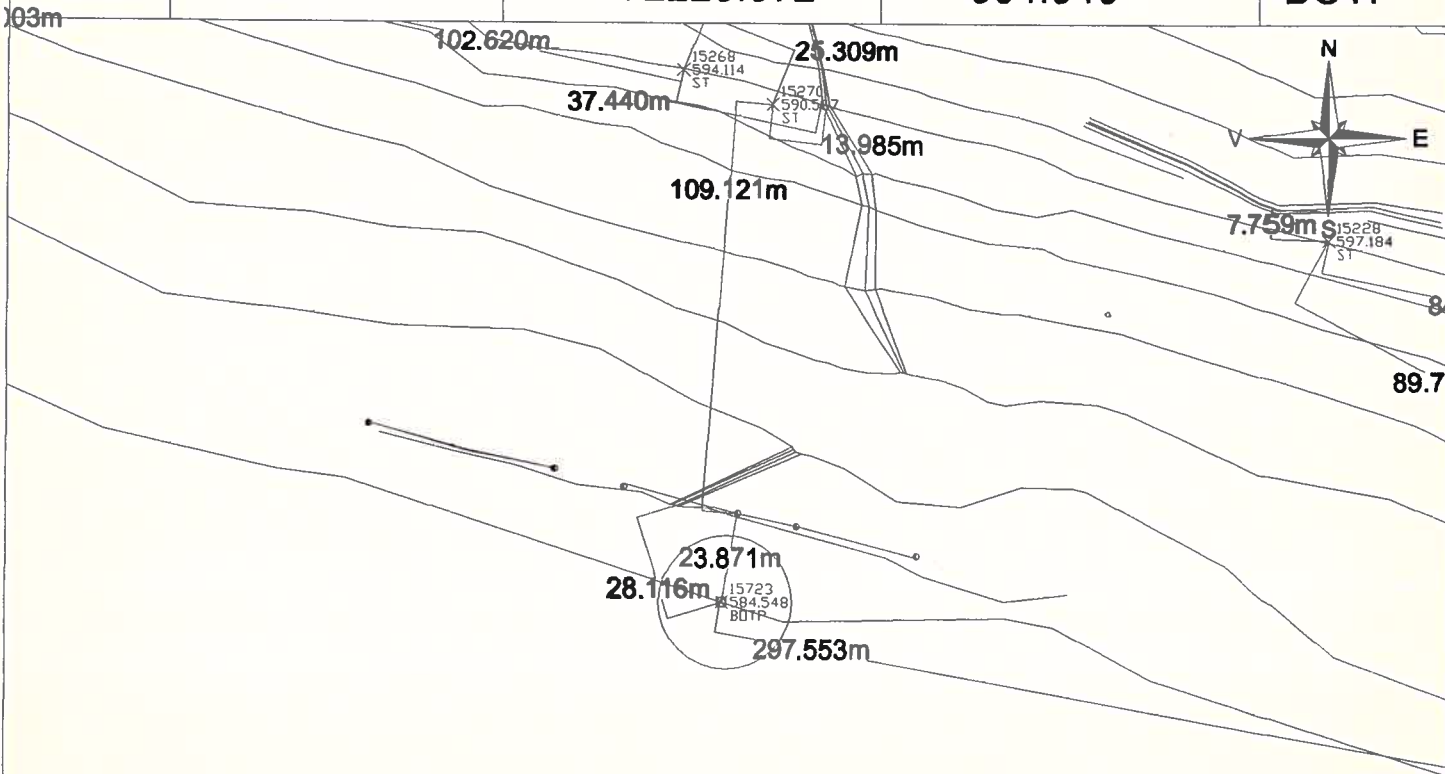
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
15723	522122.514	472225.572	584.548	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 23.871m fata de stalpul de beton, la 28.116m fata de marginea canalului de irigatii si la 297.553m fata de punctul 15026.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

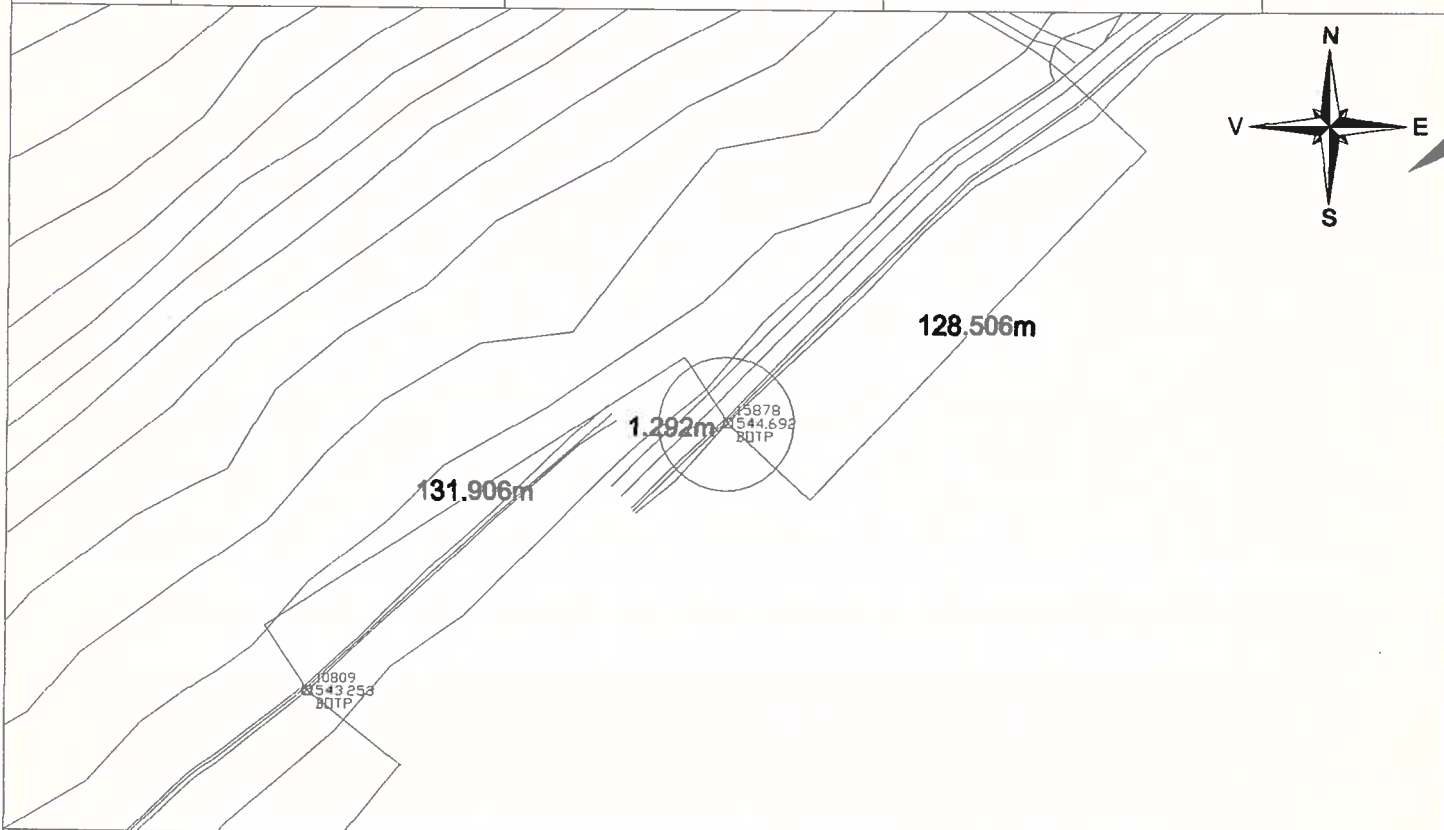
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
15878	526342.636	474641.106	544.692	BOTP



Descrierea punctului : materializare = borna feno

Punctul se afla la 1.292m fata de marginea drumului national si la 128.506m fata de marginea drumului lateral de pamant.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

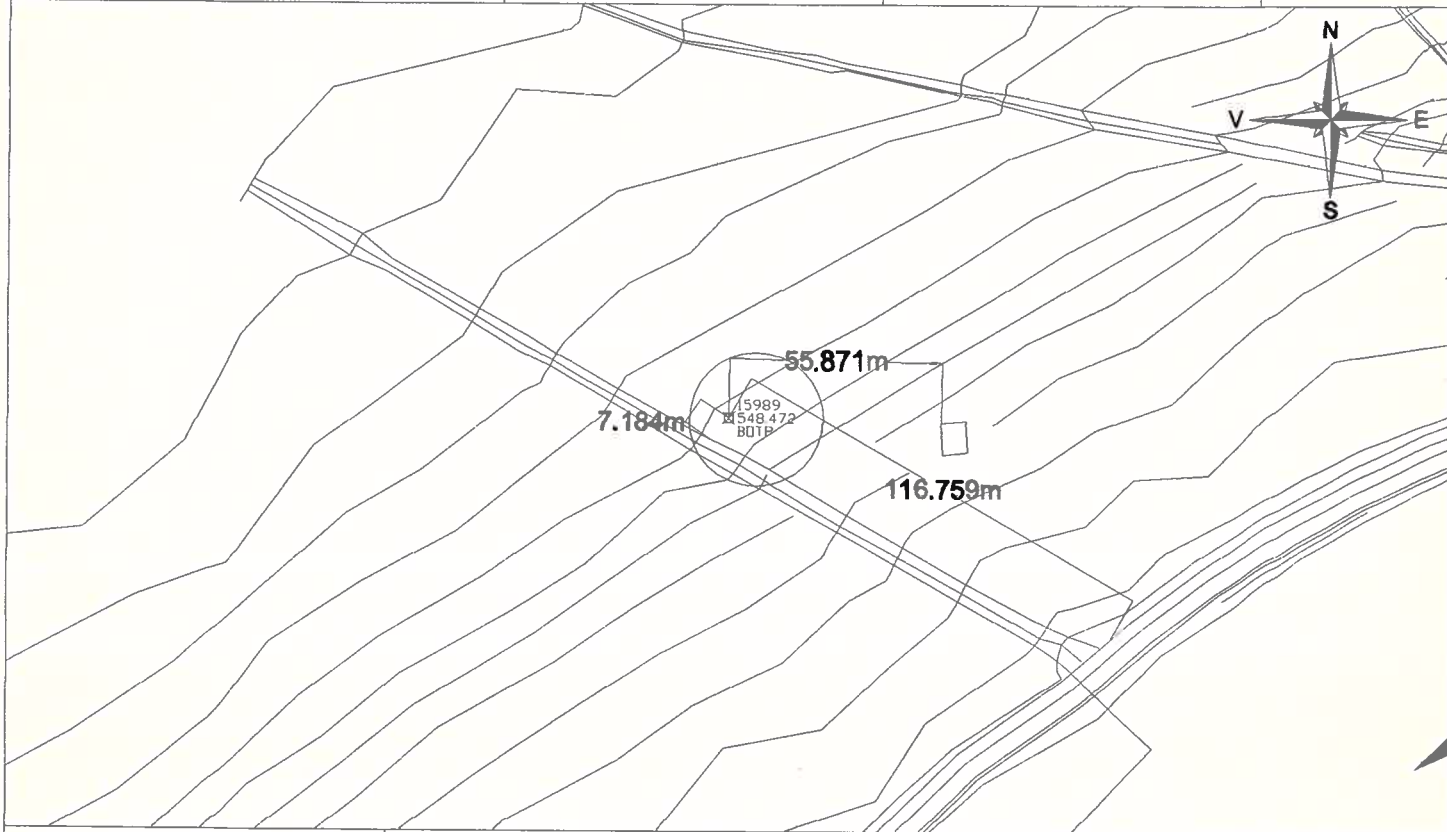
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proectie Stereo 1970

Nr.	Est	Nord	H	Cod
15989	526340.339	474801.708	548.472	BOTP



Descrierea punctului : materializare = borna feno

Punctul se afla la 7.184m fata de marginea drumului de pamant, la 116.759m fata de margina drumului national si la 55.871m fata de coltul gardului.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

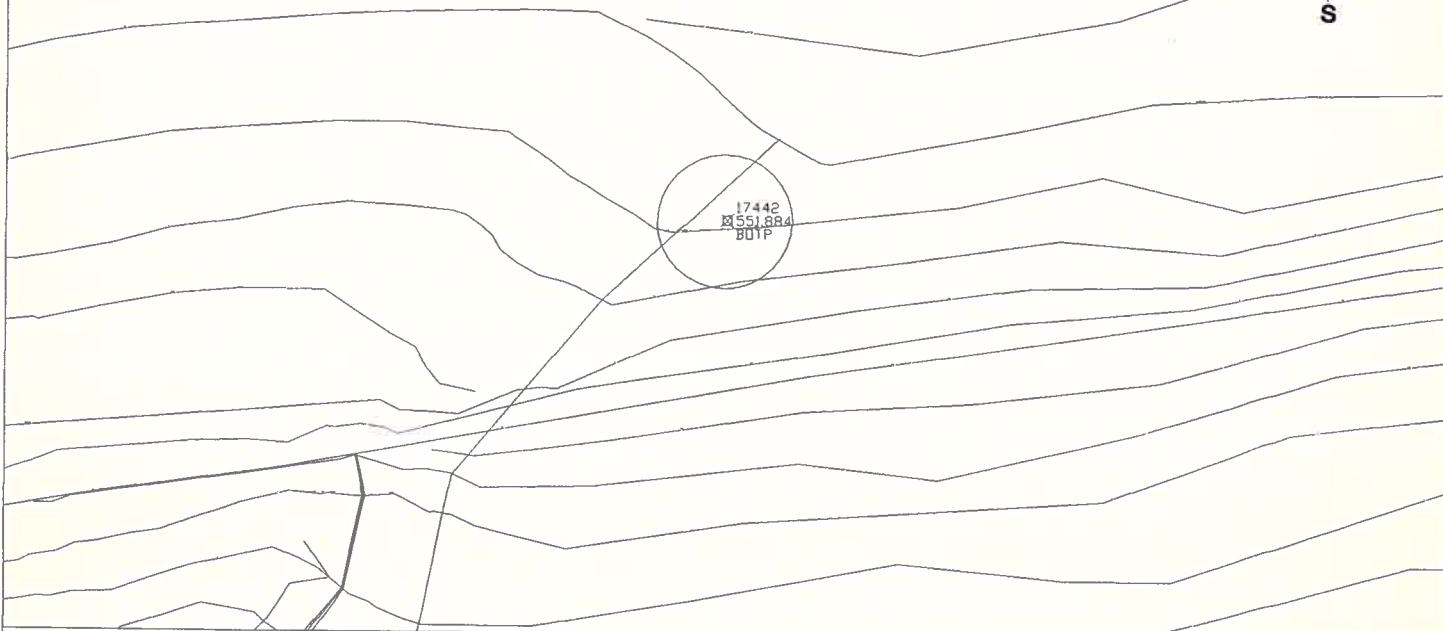
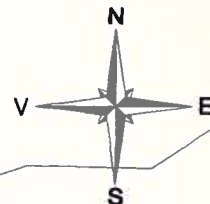
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
17442	527526.081	475172.030	551.884	BOTP



Descrierea punctului : materializare = borna feno



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

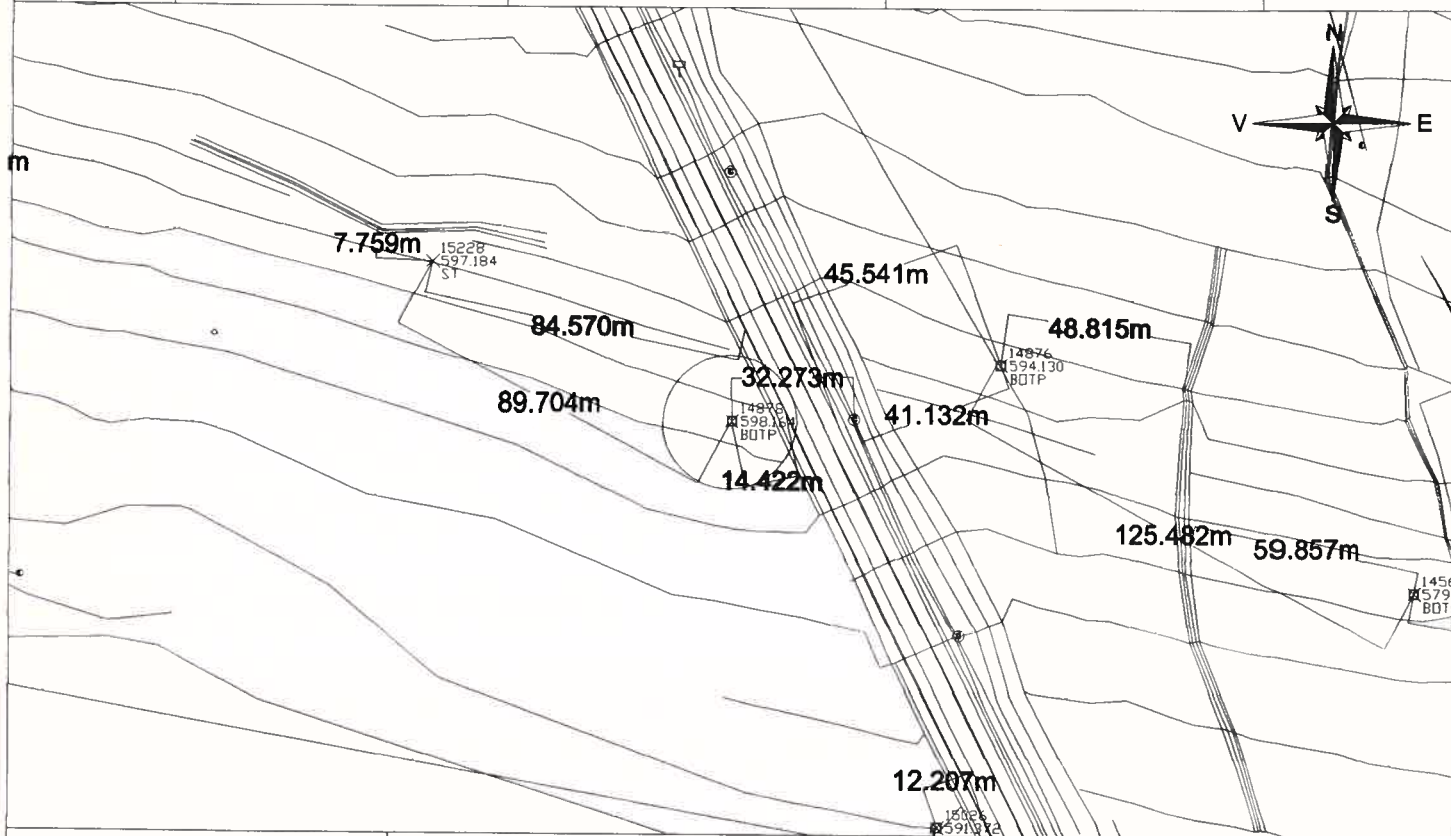
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
14878	522360.435	472280.150	598.164	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 14.422m fata de marginea drumului national si la 32.273m fataa de camin canalizare.





# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

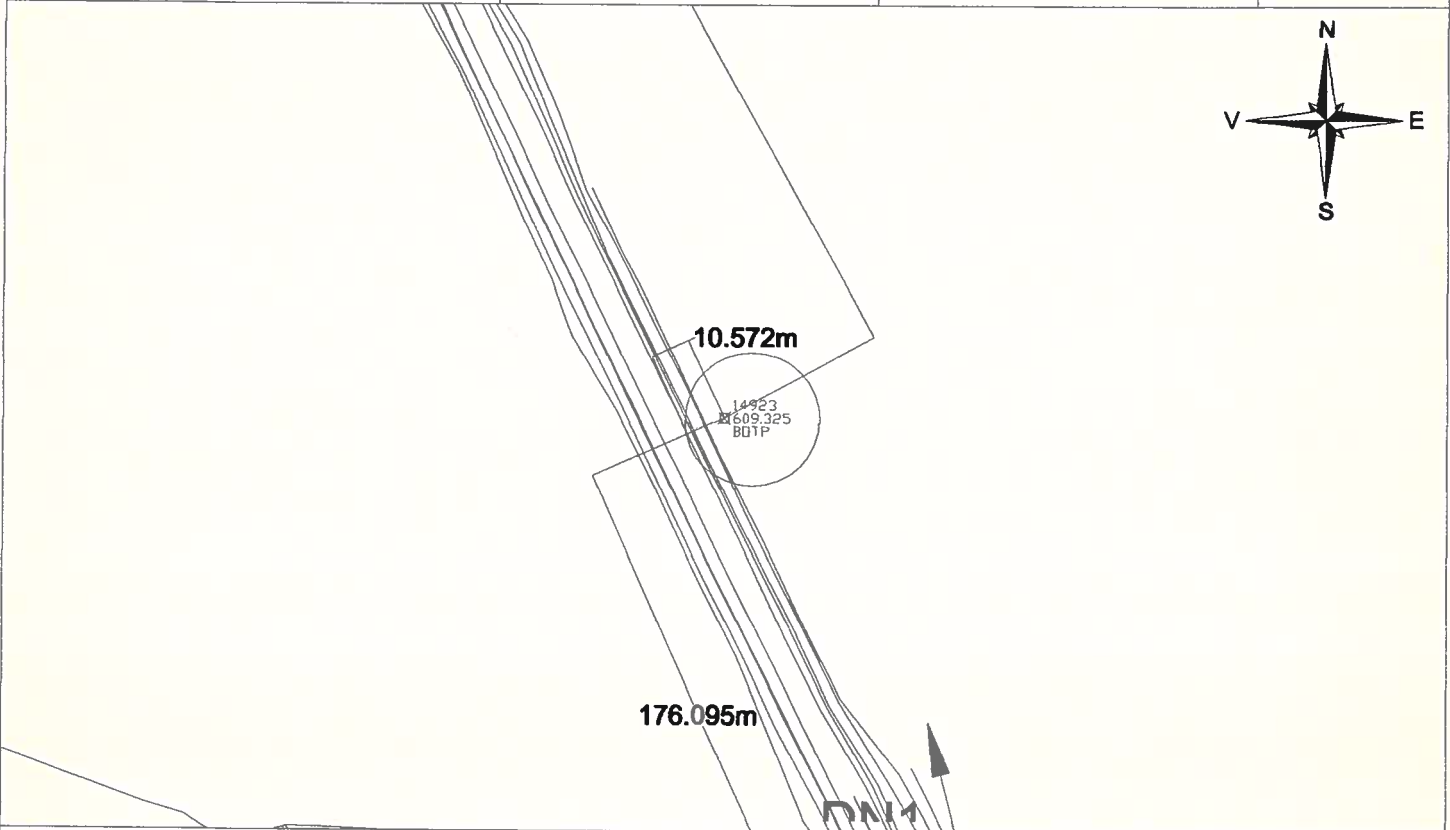
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

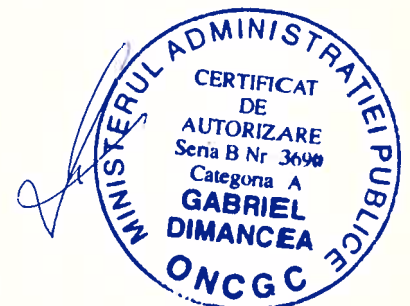
KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
14923	522245.459	472592.583	609.325	BOTP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 10.572m fata de marginea drumului national si la 176.095m fata de indicatorul rutier.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

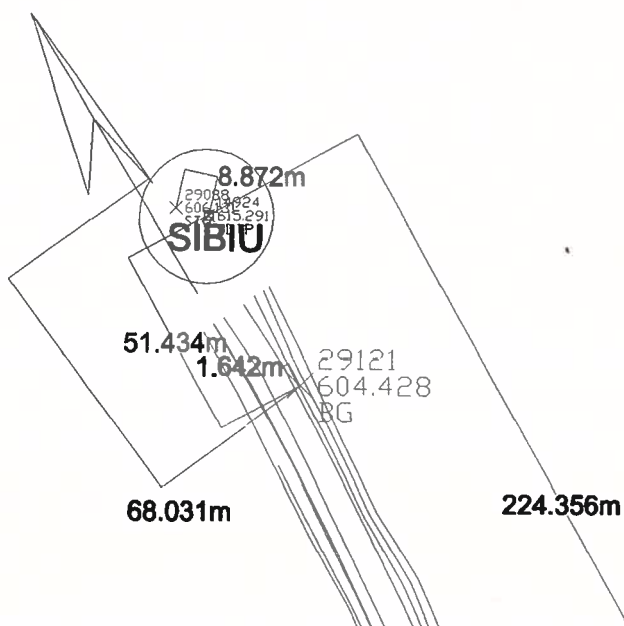
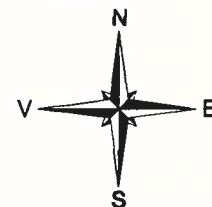
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
14924	522137.209	472789.096	615.291	BOTP



Descrierea punctului : materializare = borna feno

Punctul se afla la 4.201m fata de marginea drumului national si la 224.356m fata de punctul 14923.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

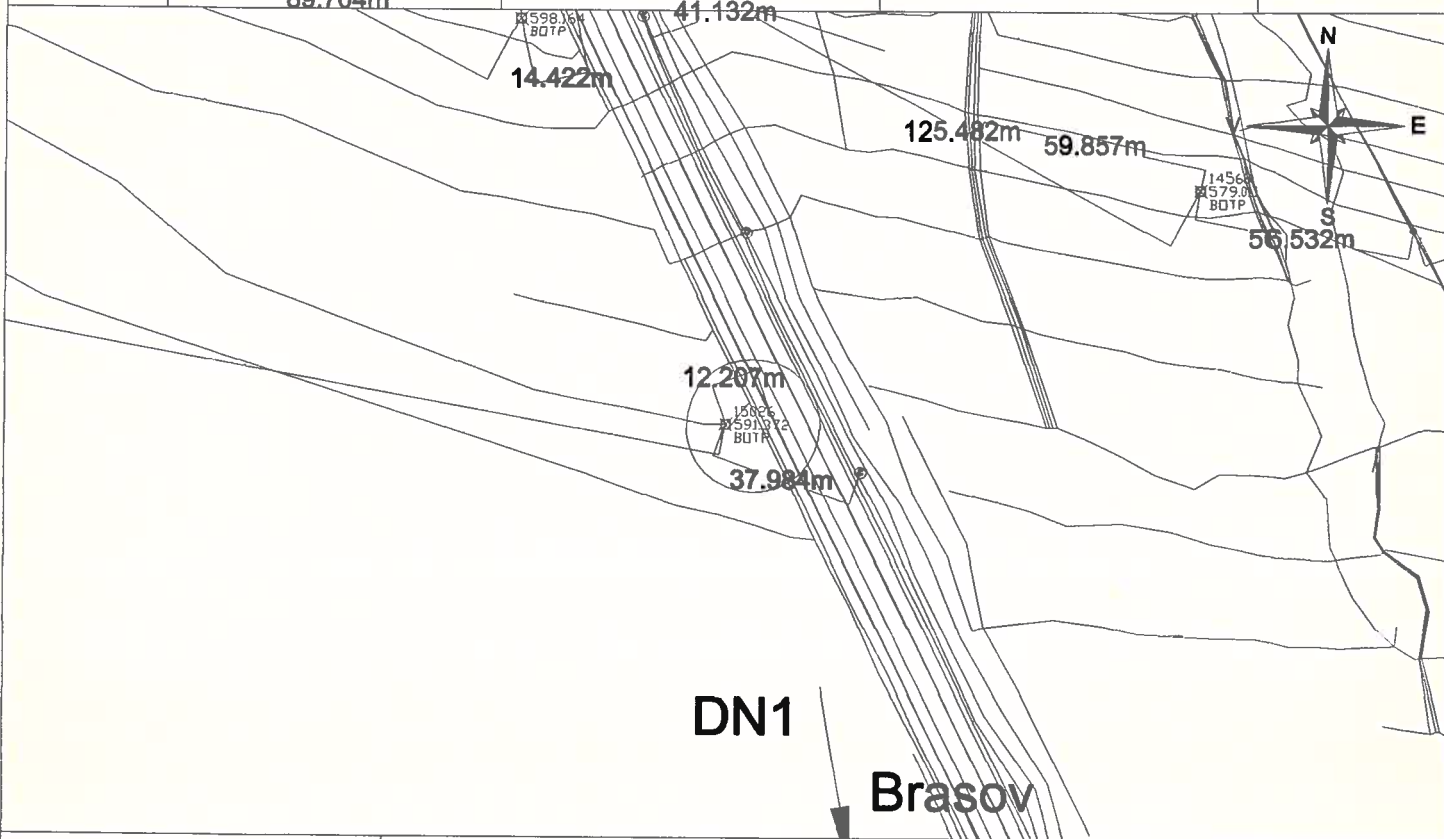
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
15026	522415.032	472172.471	591.372	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 12.207m fata de marginea drumului national si la 37.984m fata de stalpul de beton.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

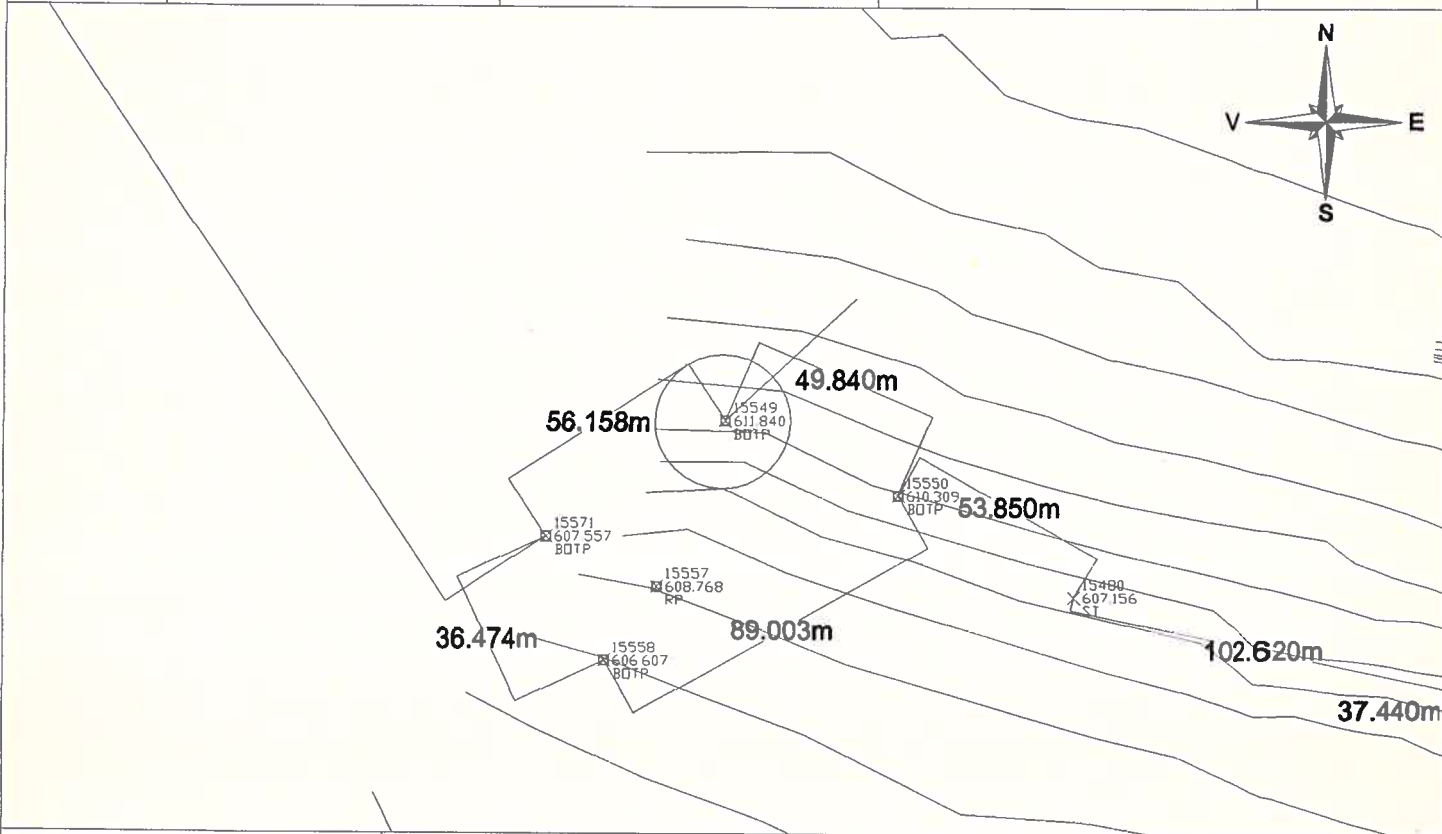
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
15549	521919.051	472435.081	611.840	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 49.840m fata de punctul 15550 si la 56.158m fata de 15571.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

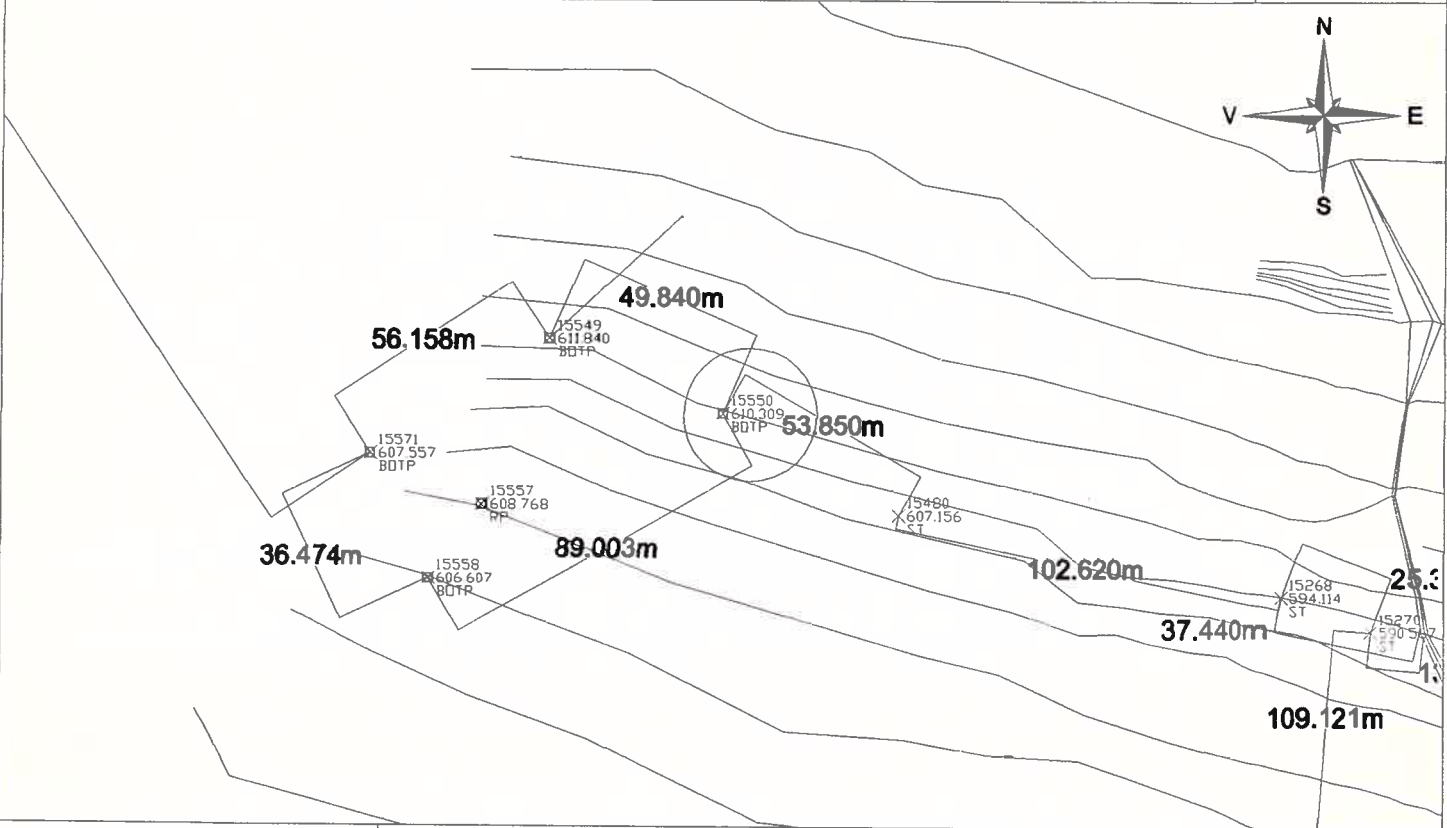
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
15550	521964.811	472415.332	610.309	BOTP

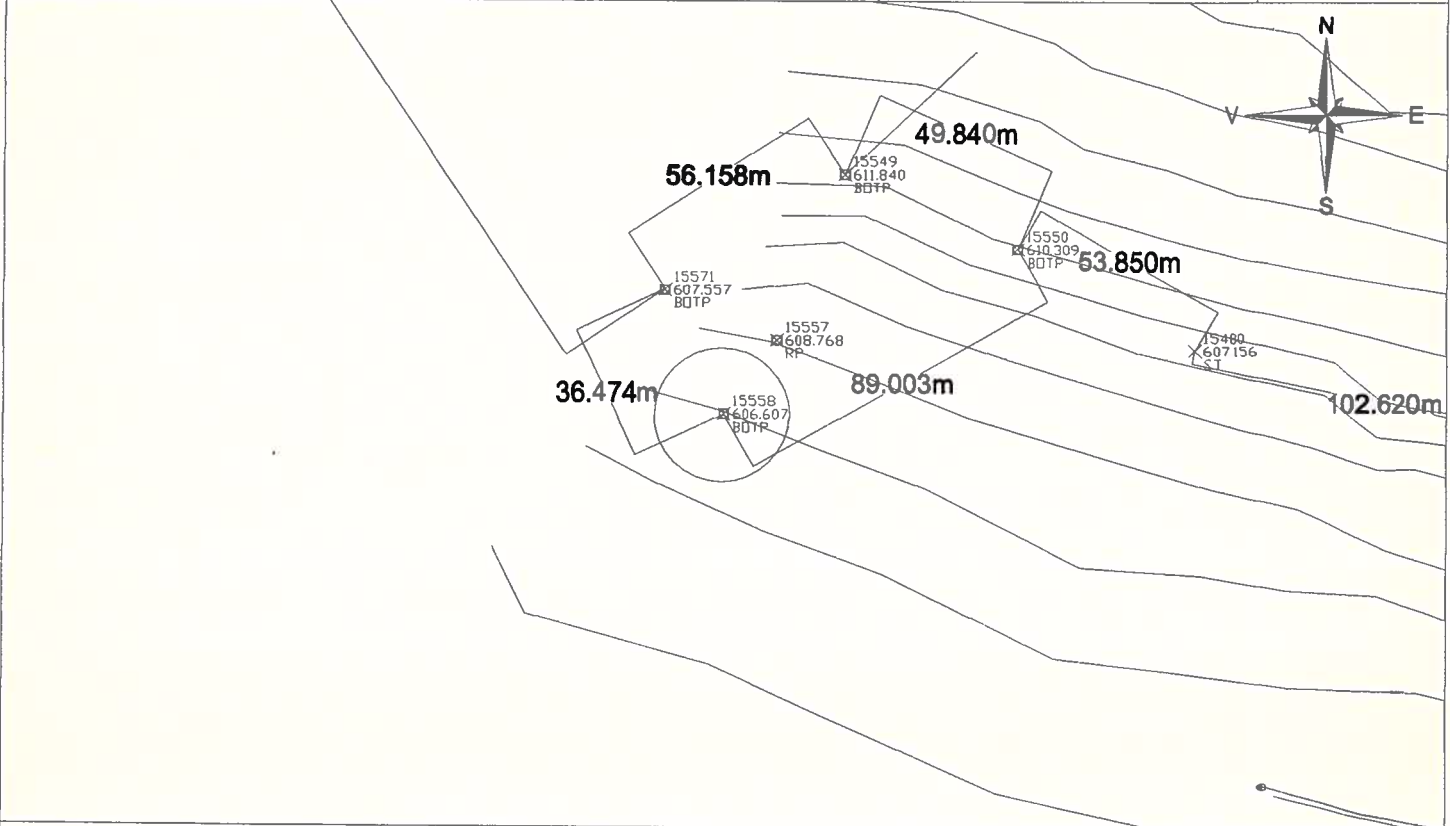


Descrierea punctului :	materializare = borna feno
	Punctul se afla la 53.850m fata de punctul 15549 si la 49.840m fata de 15571.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
15558	521887.490	472371.253	606.607	BOTP



<b>Descrierea punctului :</b>	<b>materializare = borna feno</b>
	Punctul se afla la 36.474m fata de punctul 15571 si la 89.003m fata de 15550.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

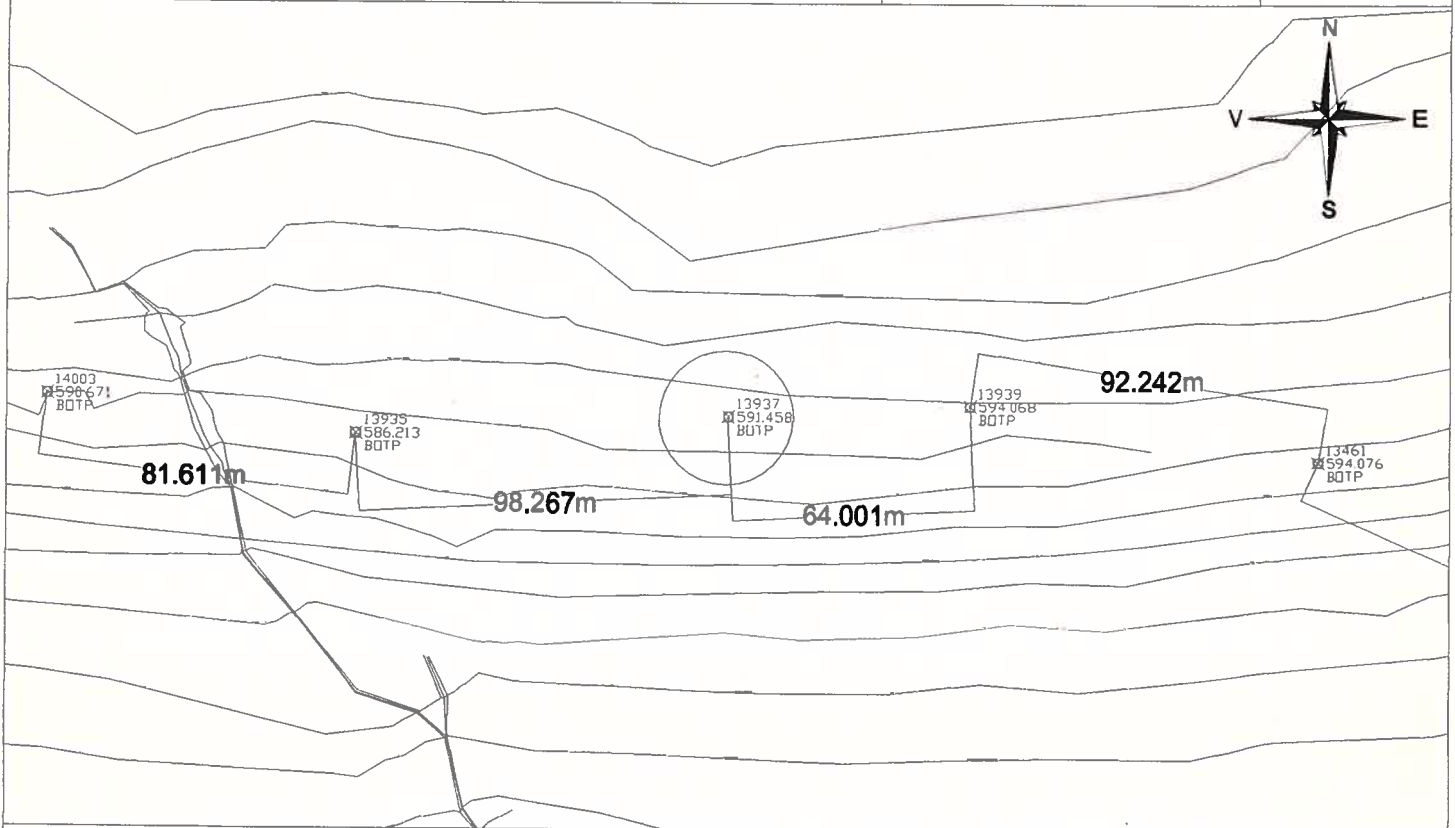
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
13937	523227.567	472152.068	591.458	BOTP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 98.267m fata de punctul 13935 si la 64.001m fata de punctul 13939.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

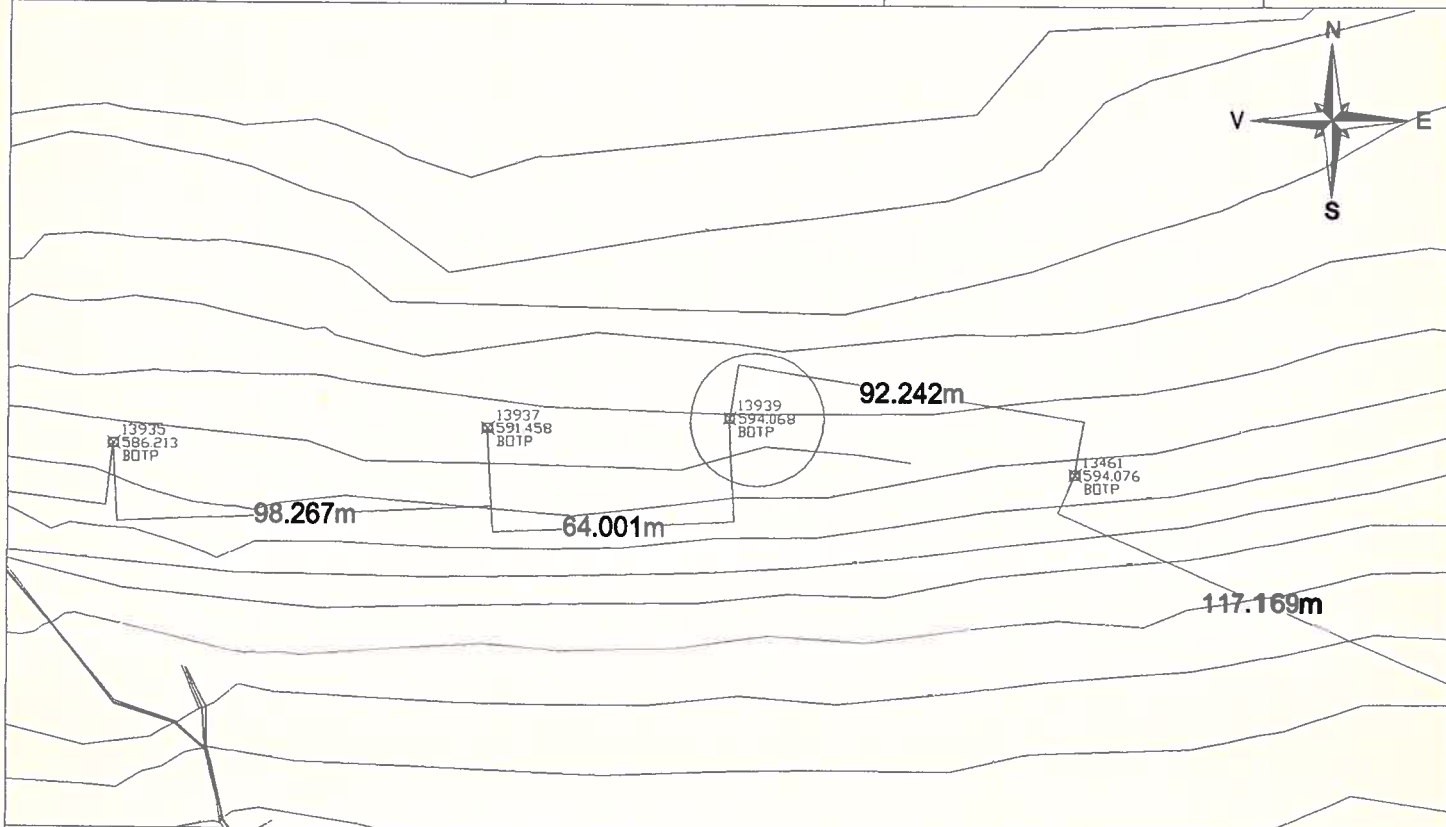
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
13939	523291.499	472155.044	594.068	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 64.001m fata de punctul 13937 si la 92.242m fata de punctul 13461.





# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

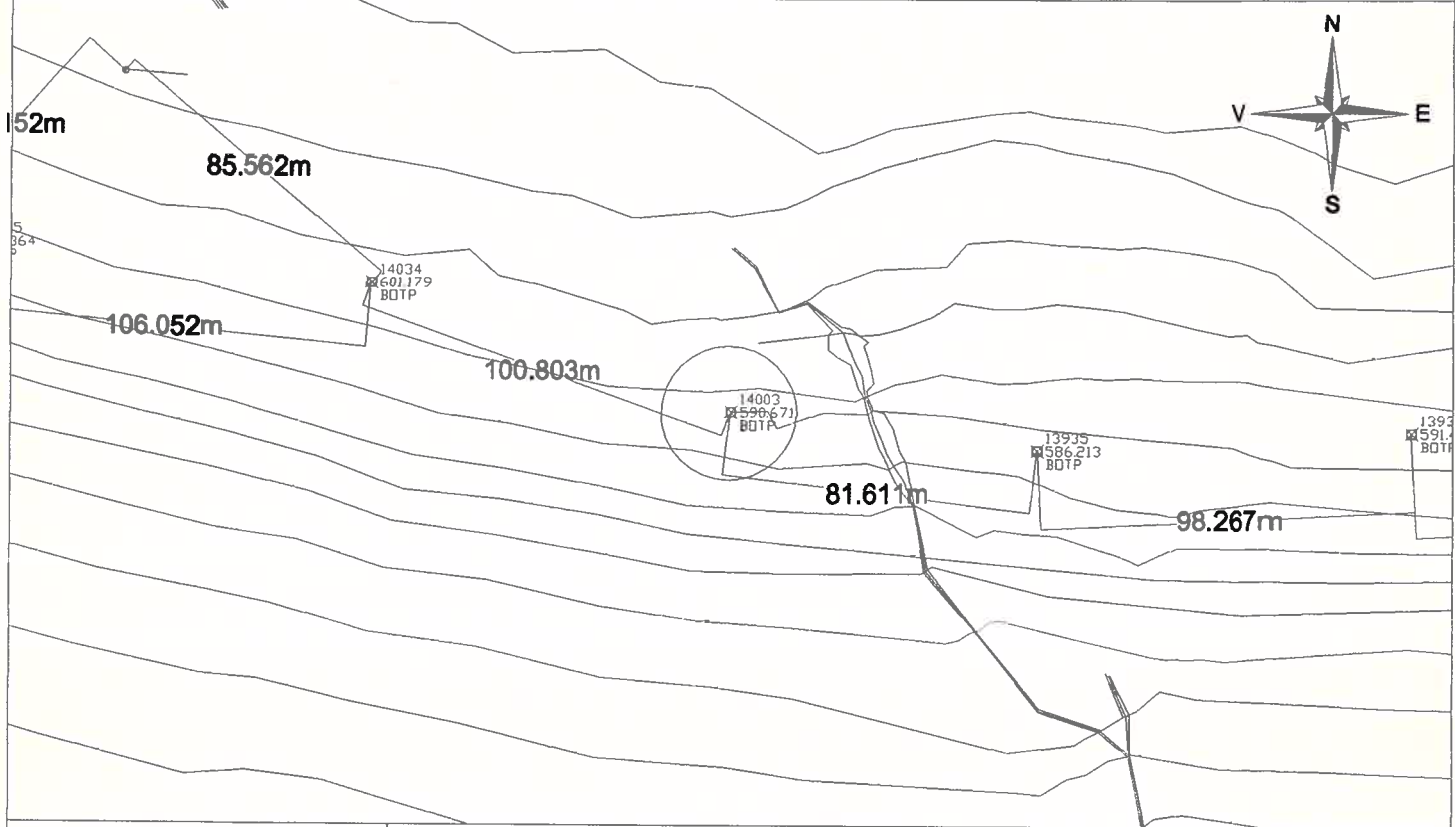
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
14003	523048.422	472157.288	590.671	BOTP

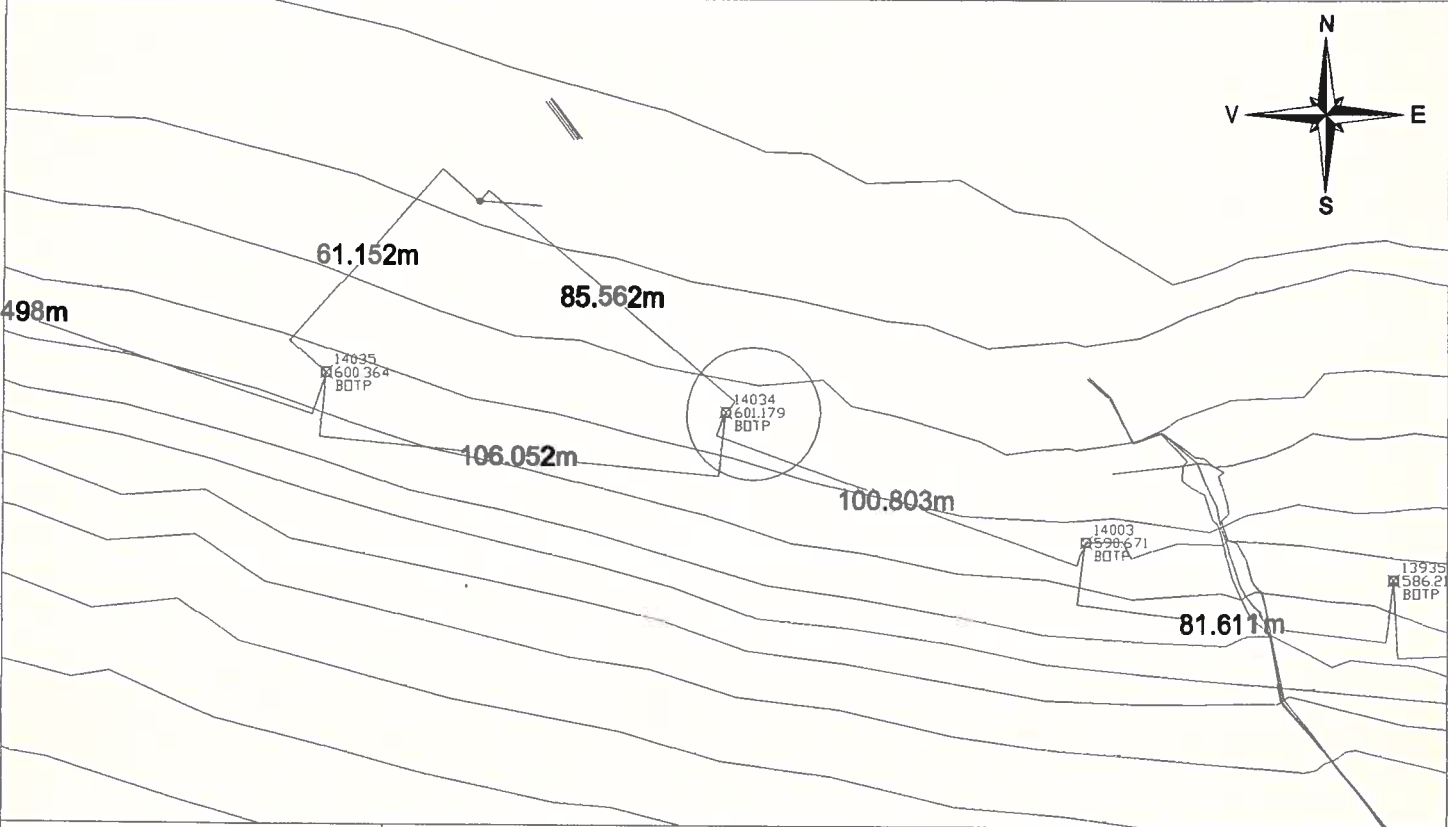


Descrierea punctului :	materializare = borna feno
	Punctul se afla la 100.803m fata de punctul 14034 si la 81.611m fata de punctul 13935.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
14034	522953.552	472191.405	601.179	BOTP



<b>Descrierea punctului :</b>	<b>materializare = borna feno</b>
	Punctul se afla la 106.052m fata de punctul 14035, la 100.803m fata de punctul 14003 si la 85.562m fata de stalpul de beton.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

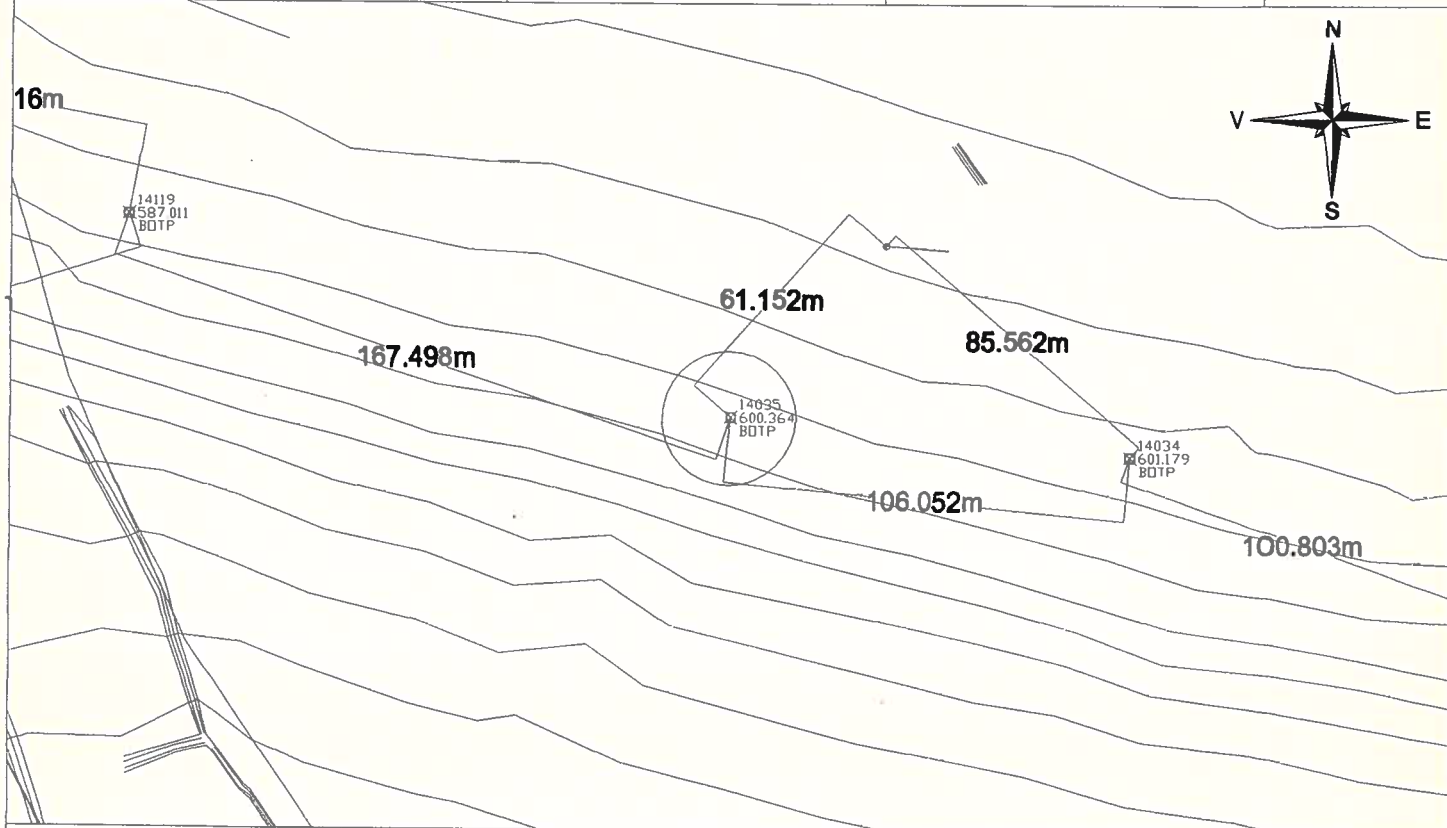
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
14035	522848.050	472201.542	600.364	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 167.498m fata de punctul 14119, la 106.052m fata de punctul 14034 si la 61.152m fata de stalpul de beton.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

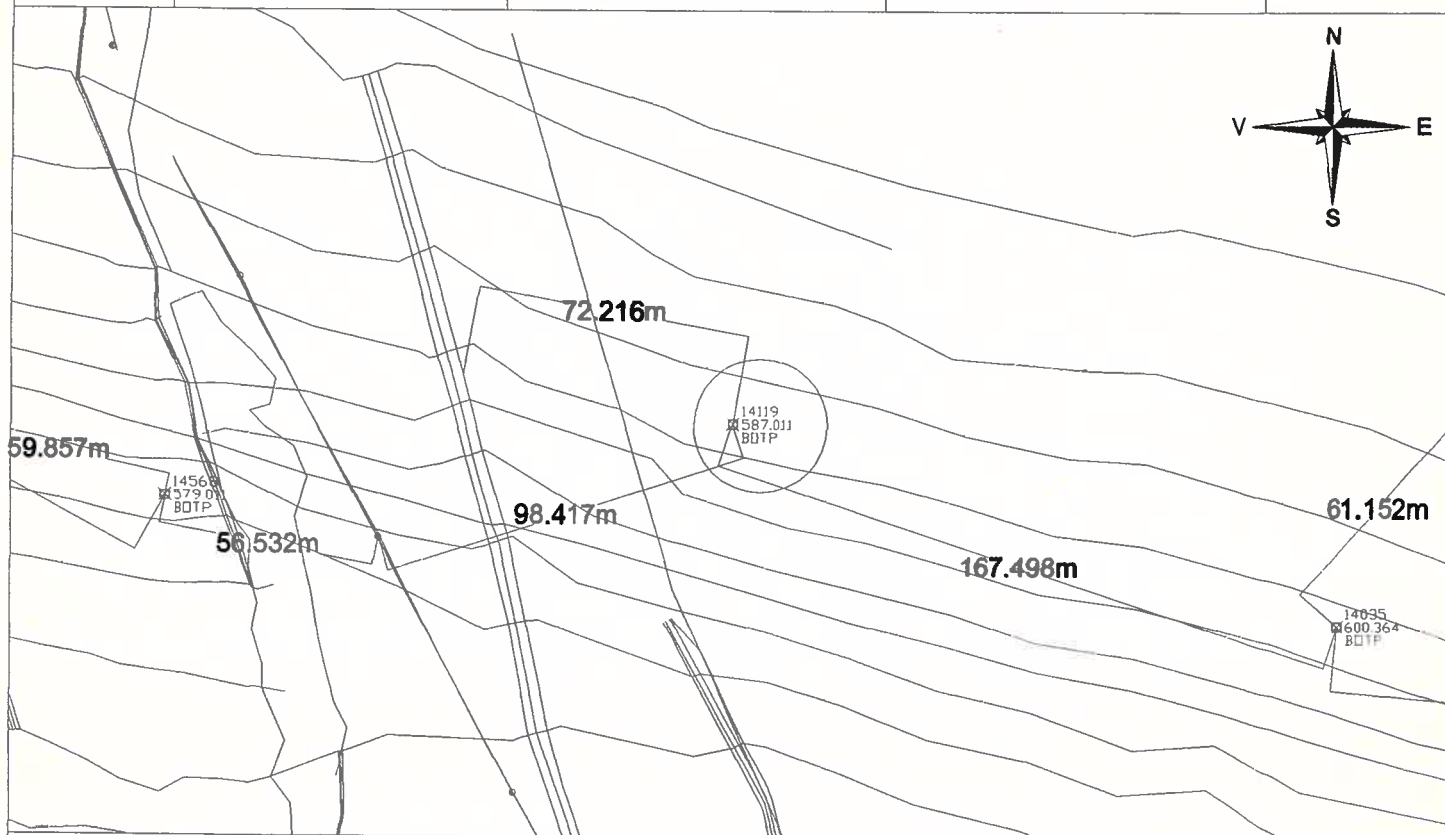
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
14119	522689.201	472254.642	587.011	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 72.216m fata de marginea drumului de balast, la 98.417m fata de stalpul de beton si la 167.498m fata de 14035.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

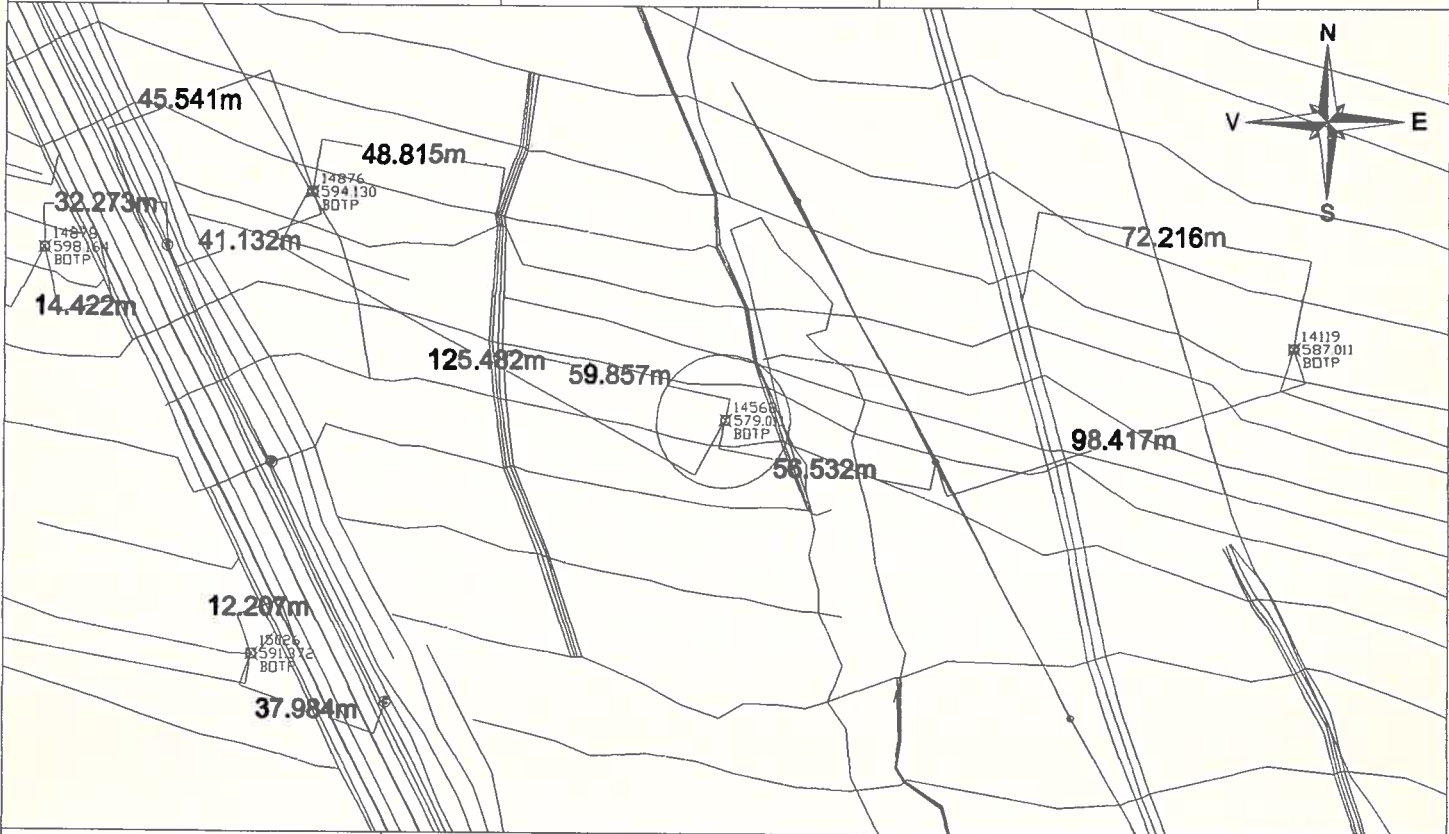
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
14568	522540.038	472235.106	579.011	BOTP



Descrierea punctului : materializare = borna feno

Punctul se afla la 56.532m fata de stalpul de beton, la 59.857m fata de marginea canalului si la 125.482m fata de punctul 14876.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

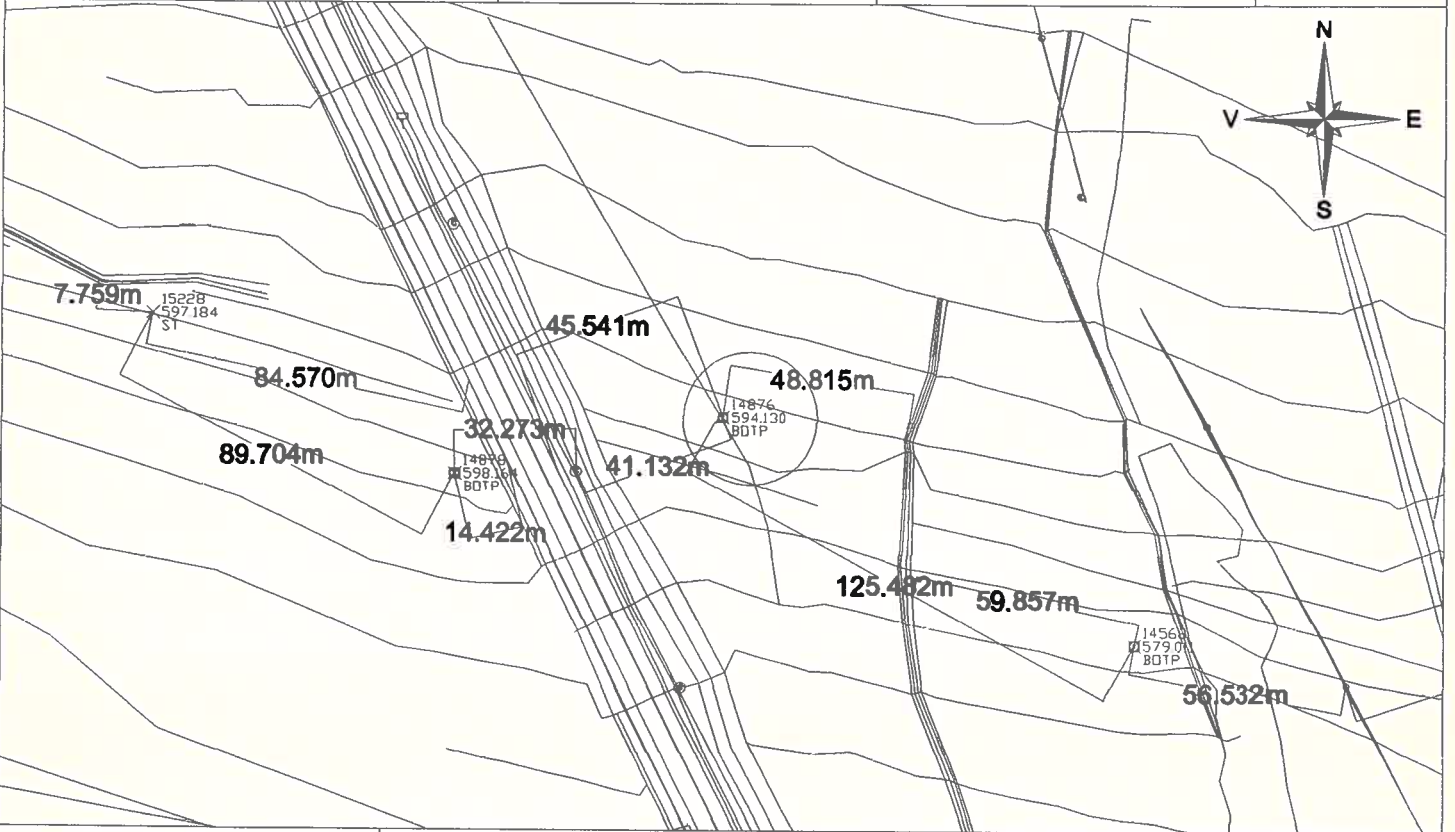
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
14876	522431.150	472295.332	594.130	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 48.815m fata de marginea canalului, la 41.132m fata de camin canalizare si la 45.541m fata de marginea drumului national.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

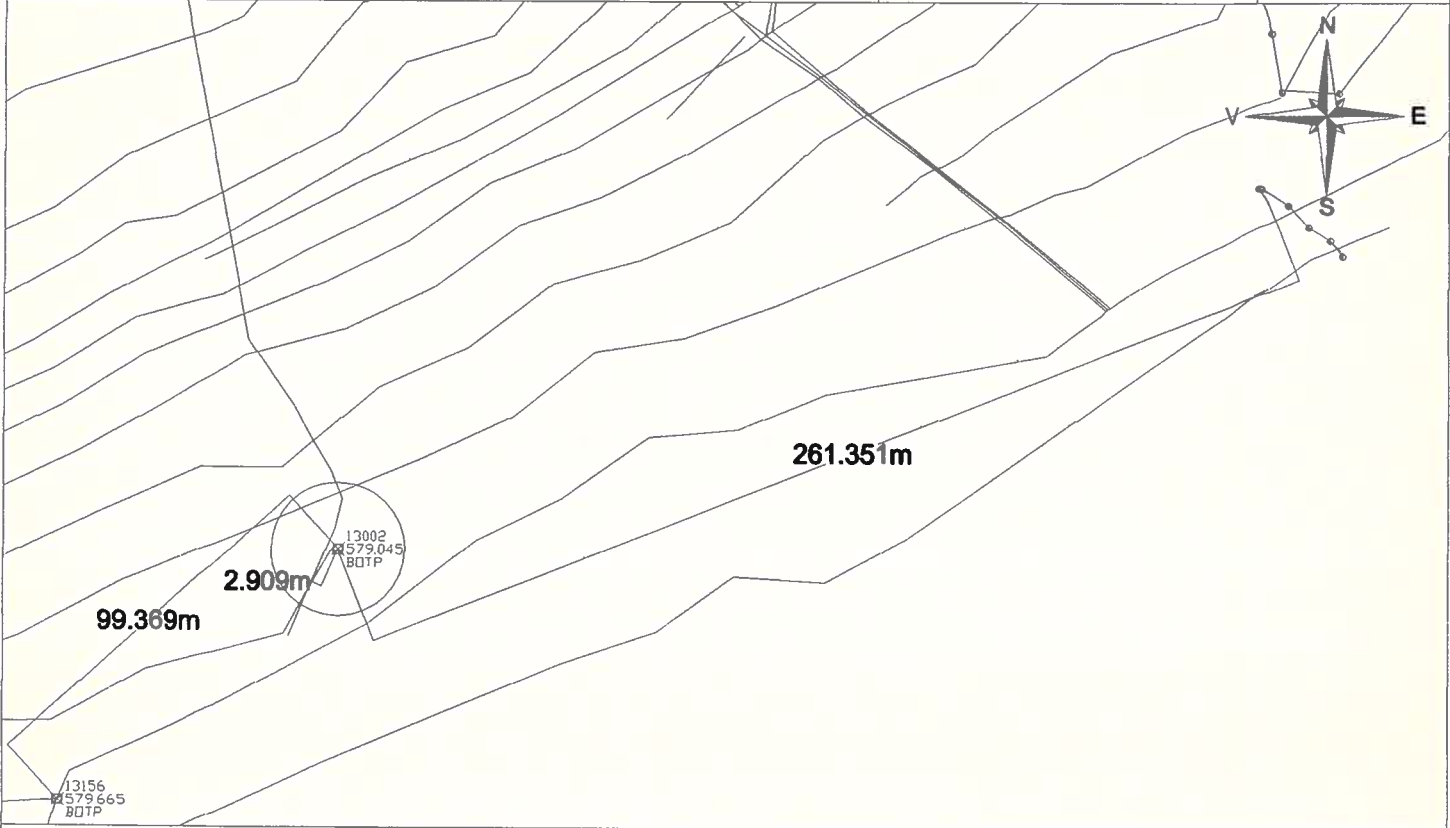
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
13002	523773.039	472165.392	579.045	BOTP

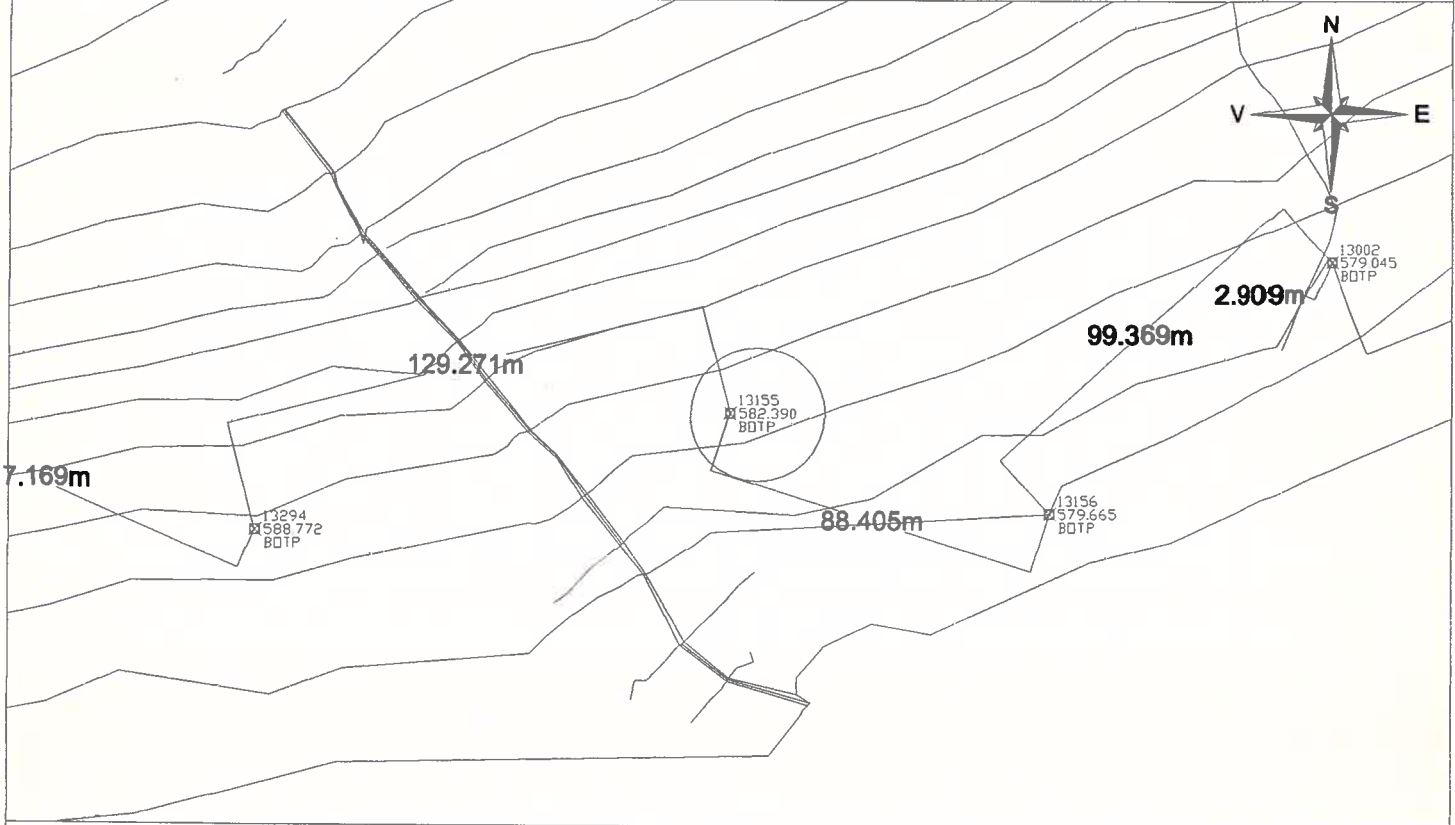


Descrierea punctului :	materializare = borna feno
	Punctul se afla la 2.909m de marginea padurii si la 261.351m fata de stalpul de beton.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
13155	523615.252	472124.830	582.390	BOTP



<b>Descrierea punctului :</b>	<b>materializare = borna feno</b>
	Punctul se afla la 88.405m fata de punctul 13156 si la 129.271m fata de punctul 13294.





# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

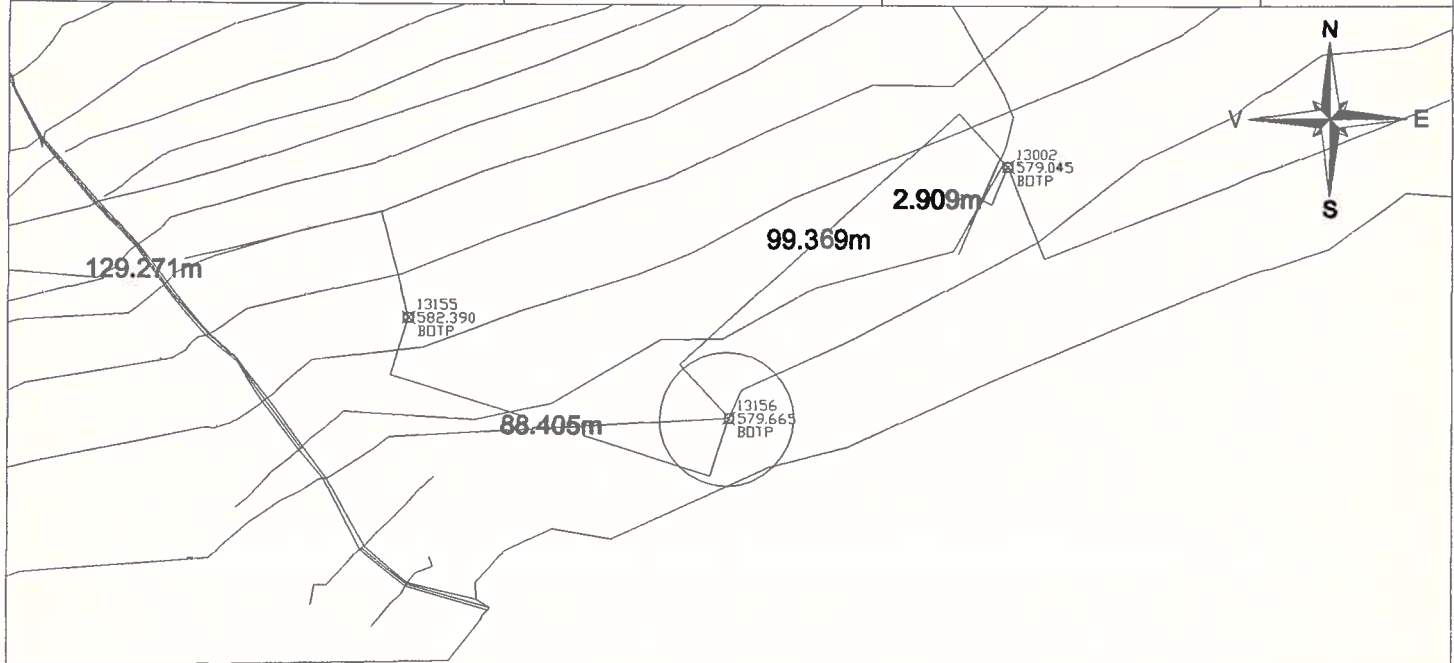
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
13156	523699.622	472098.428	579.665	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 99.369m fata de punctul 13002 si la 88.405m fata de punctul 13155.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

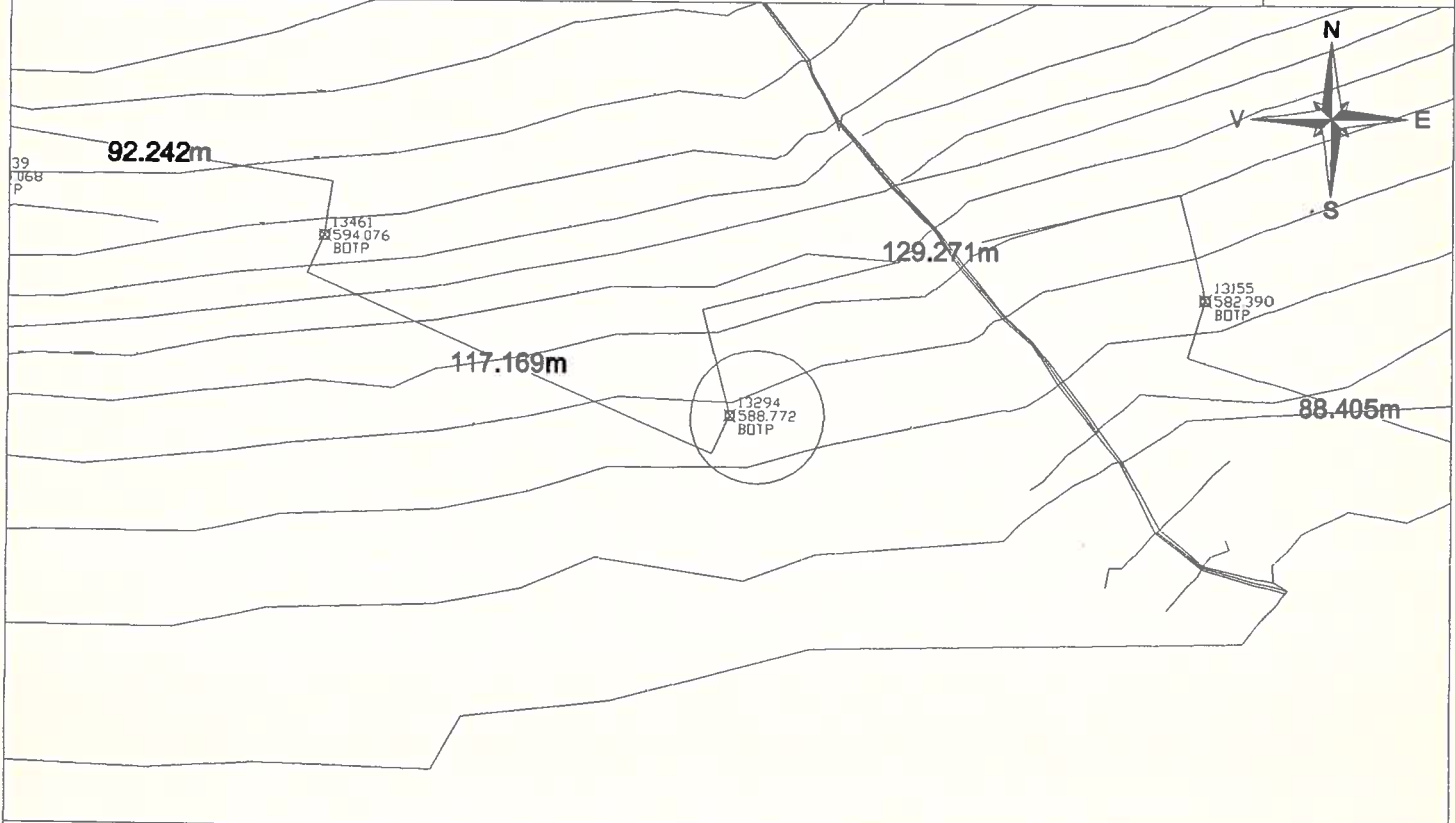
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
13294	523489.872	472093.354	588.772	BOTP



Descrierea punctului : materializare = borna feno

Punctul se afla la 129.271m fata de punctul 13155 si la 117.169m fata de punctul 13461.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

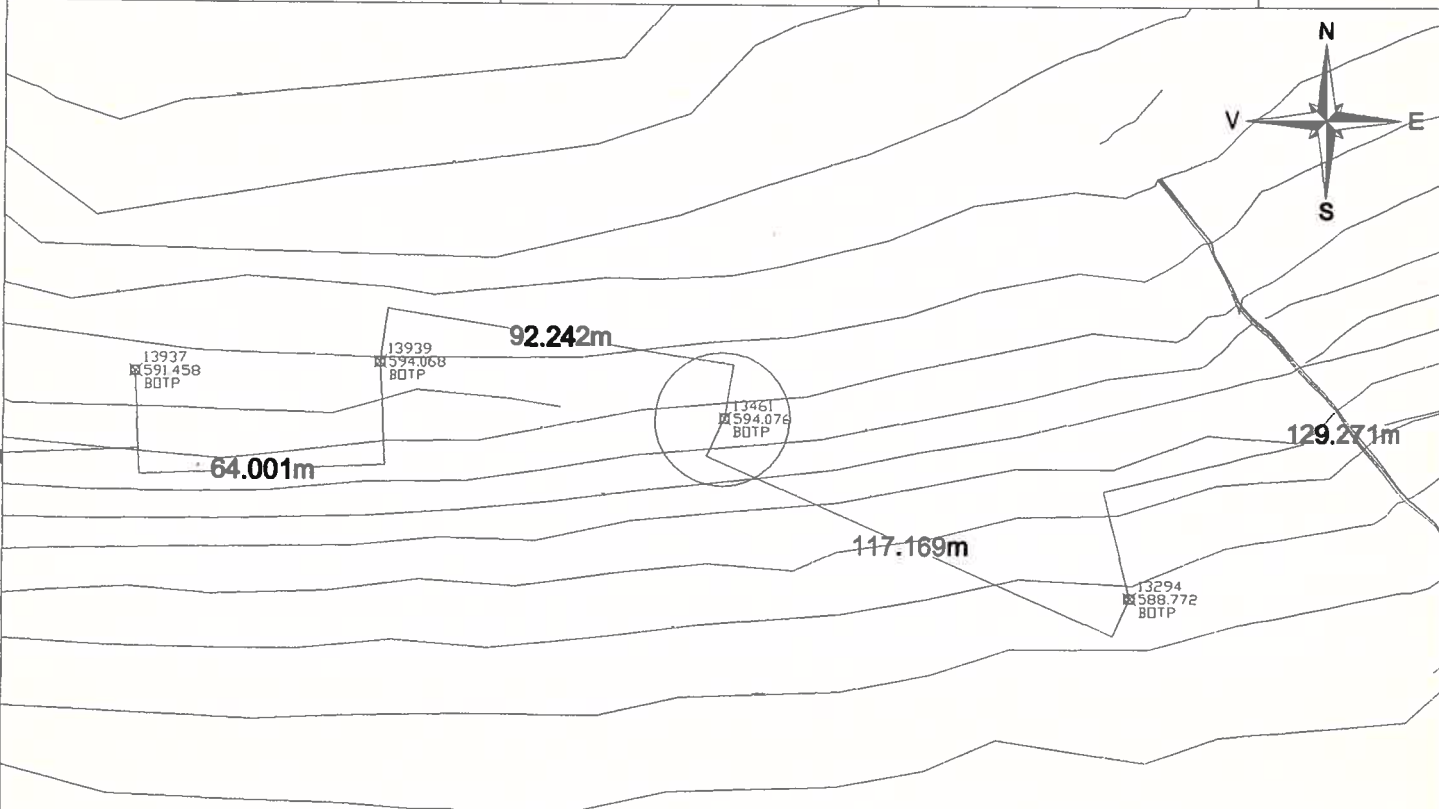
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
13461	523382.597	472140.478	594.076	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 117.169m fata de punctul 13294 si la 92.242m fata de punctul 13939.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

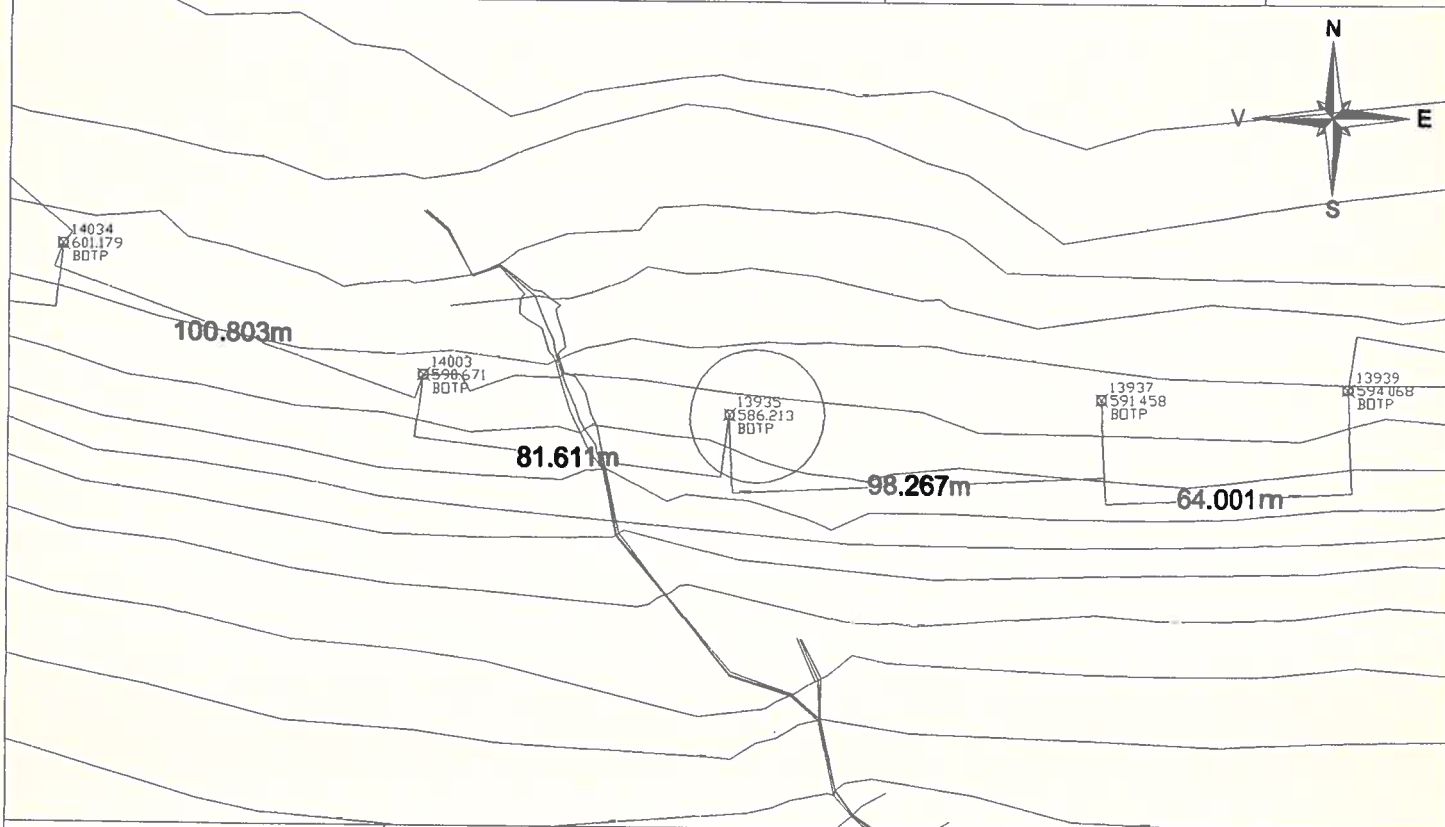
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
13935	523129.413	472147.362	586.213	BOTP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 98.267m fata de punctul 13937 si la 81.611m fata de punctul 14003.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

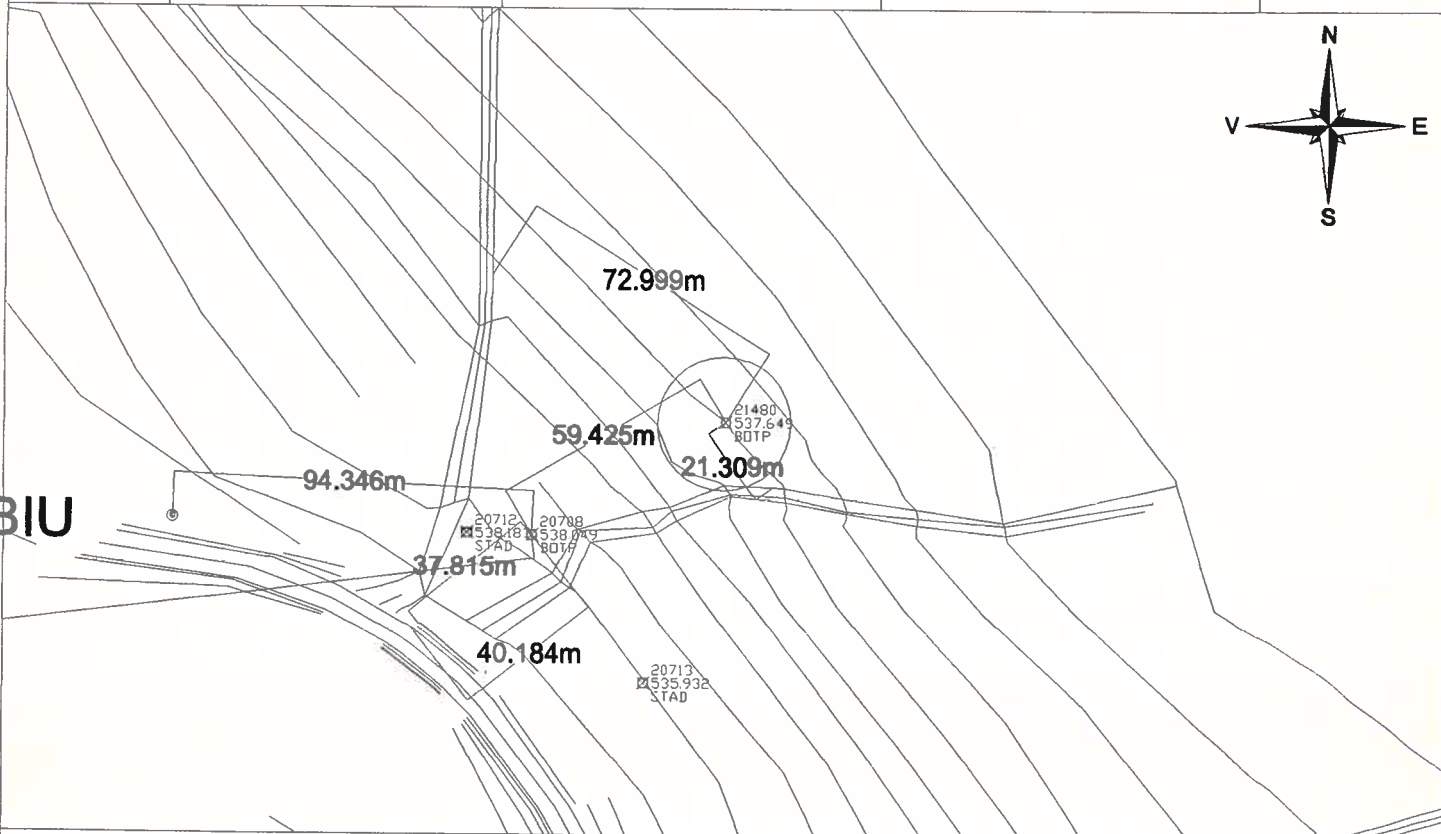
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
21480	531229.643	473221.790	537.649	BOTP



Descrierea punctului : materializare = borna feno

Punctul se afla la 21.309m fata de marginea apei, la 59.425m fata de punctul 20708 si la 72.999m fata de marginea drumului de piatra.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

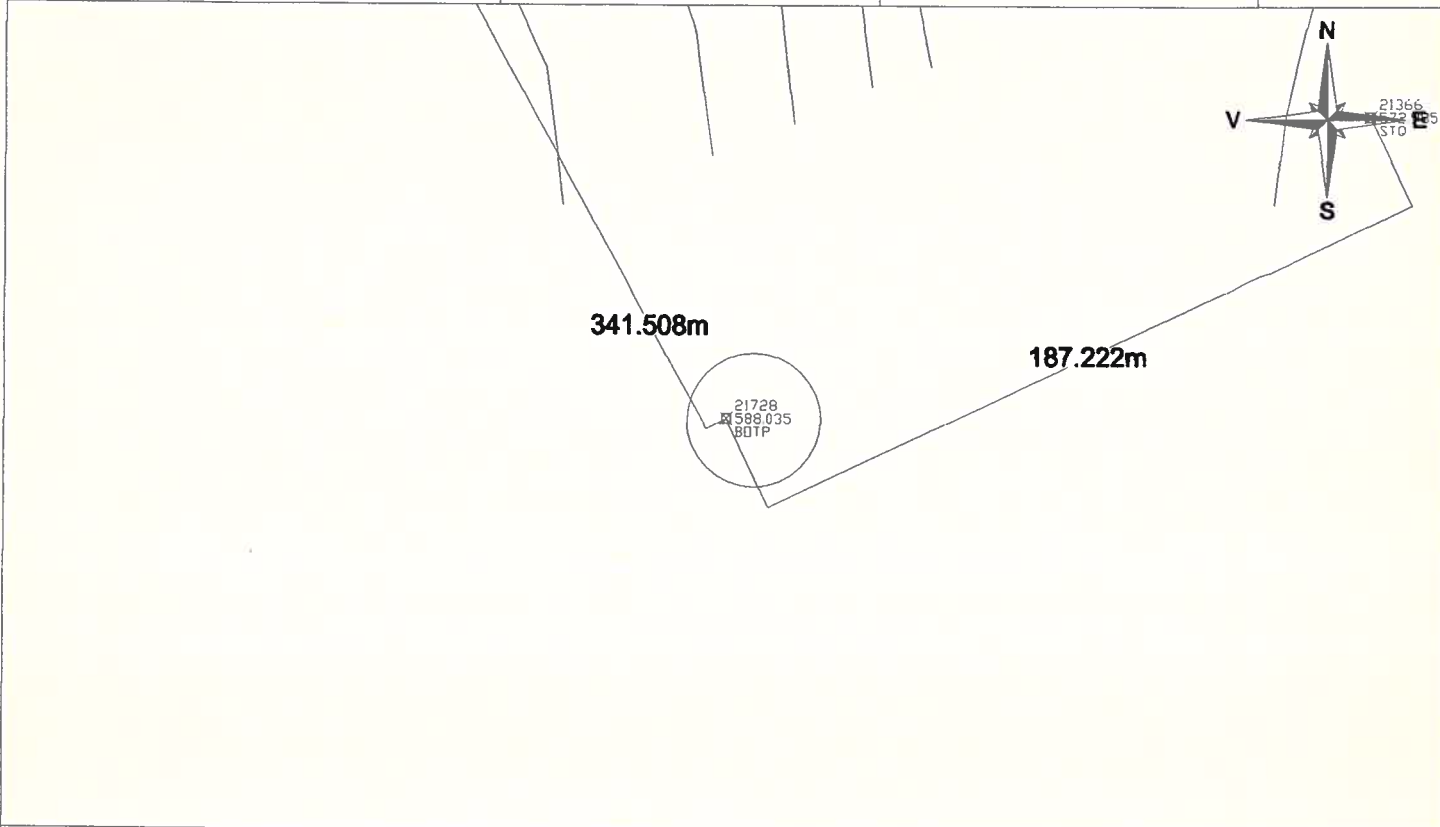
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
21728	531381.409	472679.563	588.035	BOTP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 187.222m fata de punctul 9844 si la 341.508m fata marginea drumului national.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
19233	529798.999	474154.897	539.703	ST



Descrierea punctului :	materializare = pichet metalic
	Punctul se afla la 7.424m fata de marginea drumului de piatra, la 5.153m fata de aerisire gaze si la 74.674m fata de marginea canalului de irigatii.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

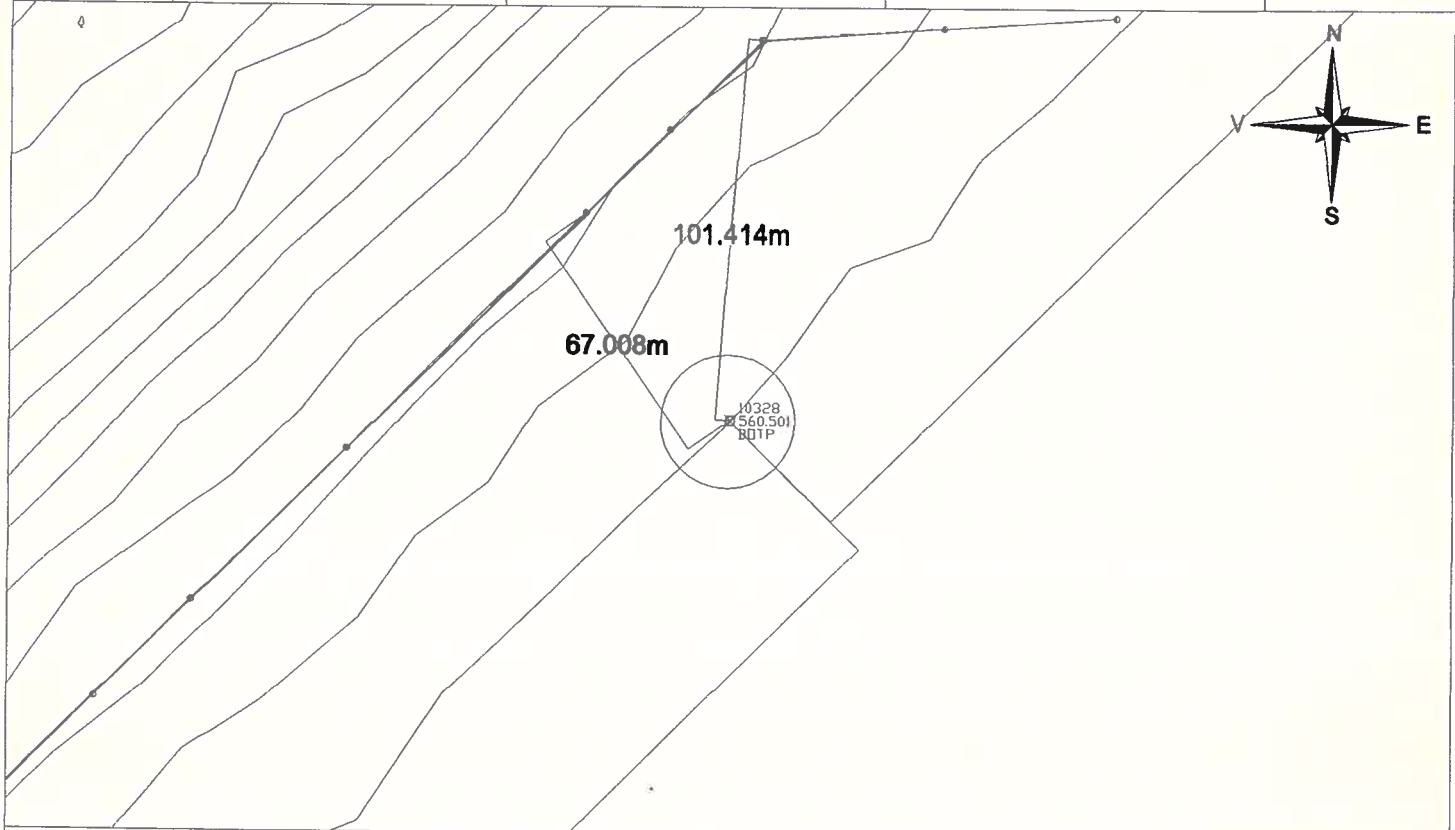
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
10328	525442.521	473768.617	560.501	BOTP



Descrierea punctului : materializare = borna feno

Punctul se afla la 67.009m fata de stalpul de beton, la 101.414m fata de stalpul de beton si la 562.212m fata de punctul 10712.





# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

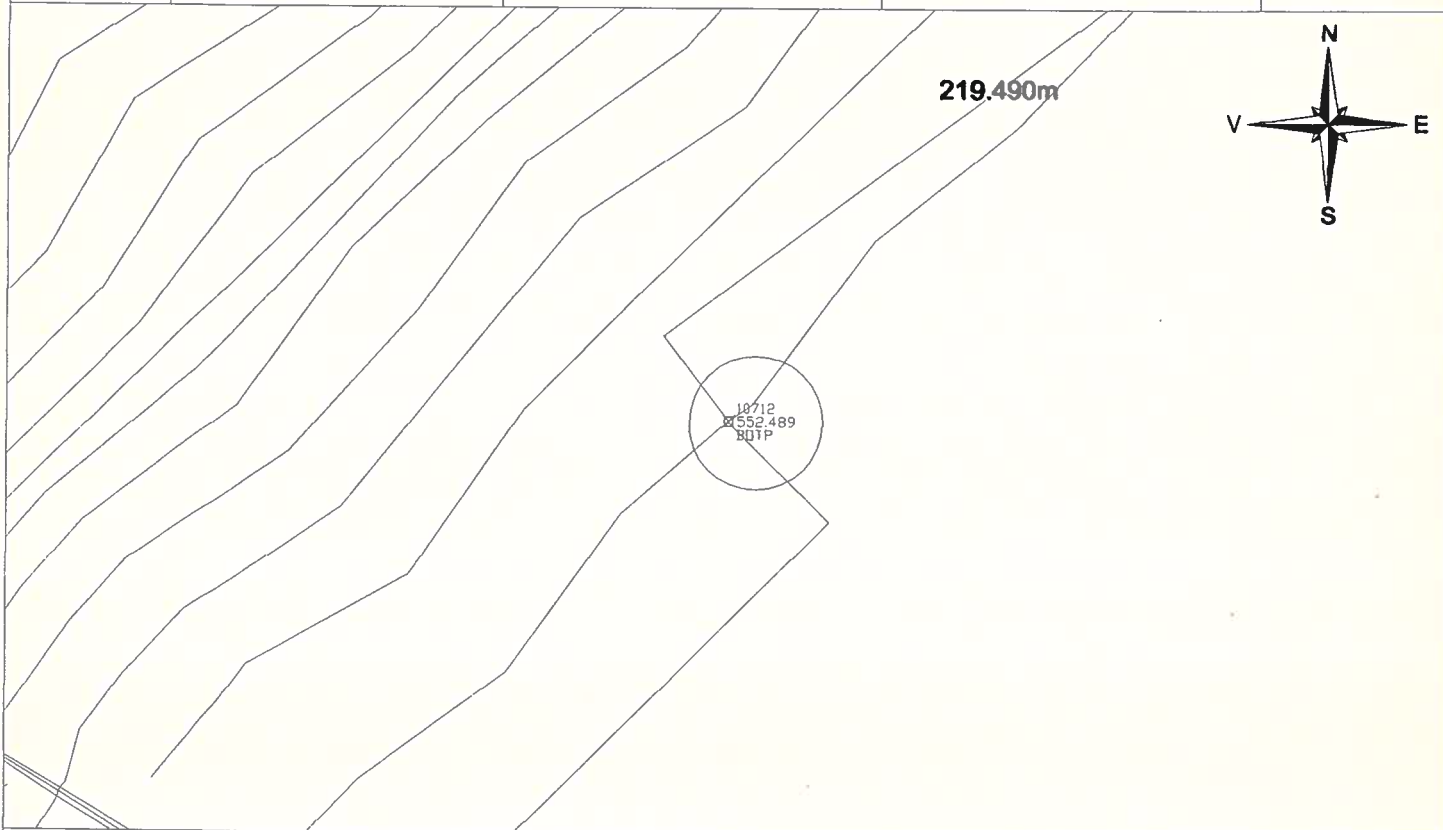
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
10712	525839.383	474166.842	552.489	BOTP



Descrierea punctului :	materializare =borna feno
	Punctul se afla la 562.212m fata de punctul 10328 si la 219.490 m fata de punctul 10803.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

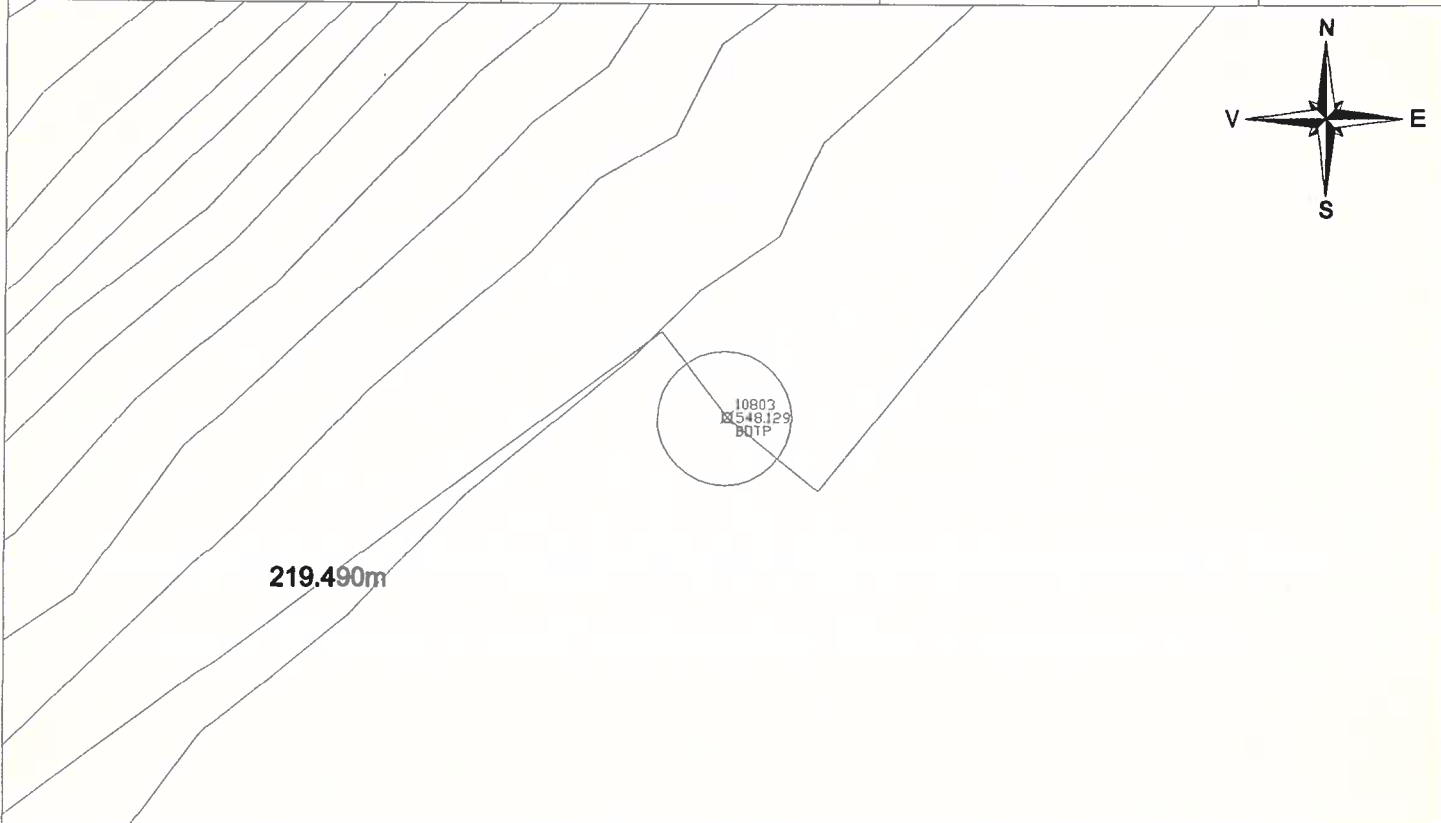
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
10803	526015.098	474298.372	548.129	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 219.490m fata de punctul 10712 si la 346.962m fata de punctul 10809.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

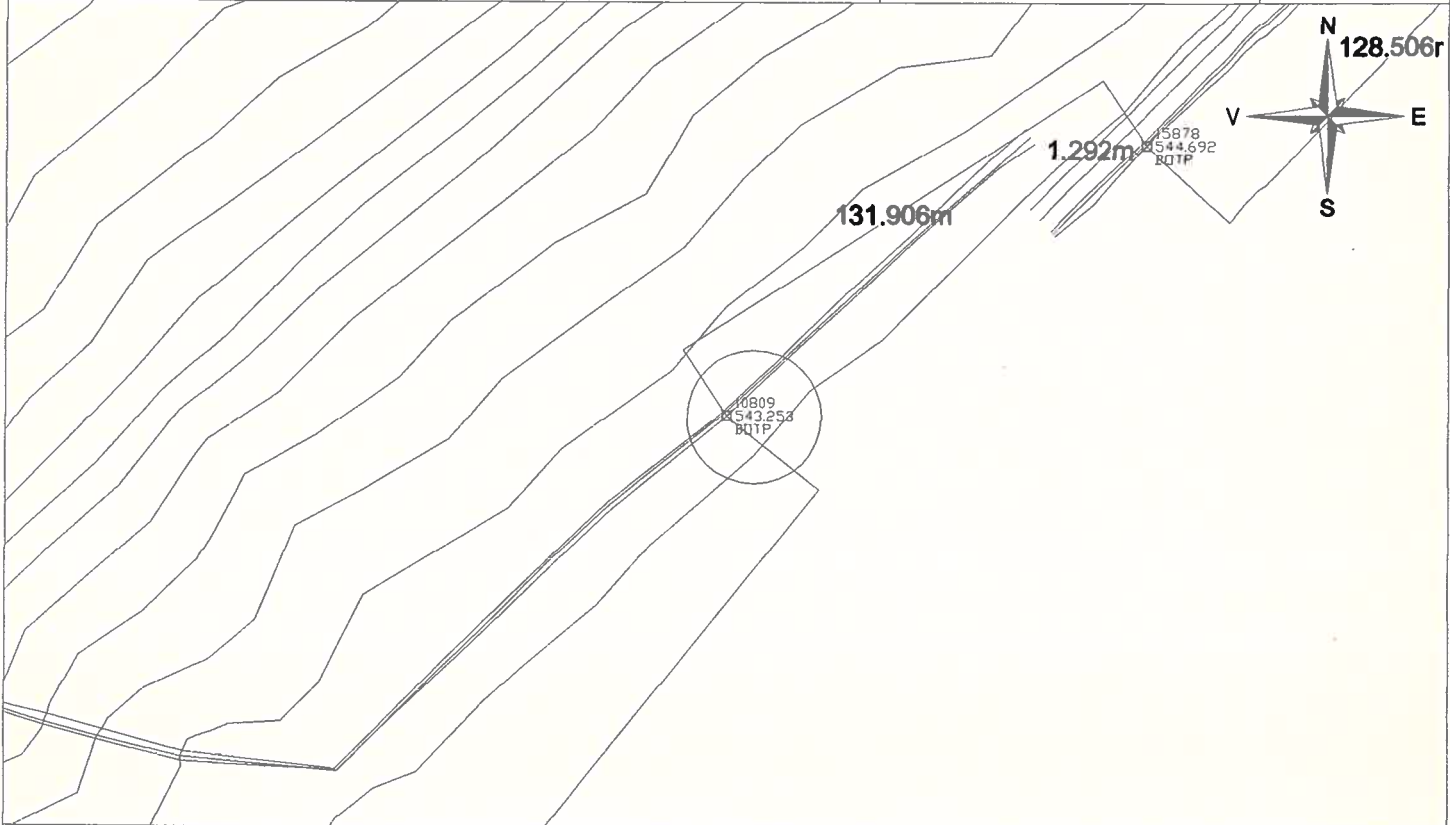
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
10809	526232.039	474569.168	543.253	BOTP



Descrierea punctului : materializare = cui de beton

Punctul se afla la 131.906m fata de punctul 15878 si la 346.962m fata de punctul 10803.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

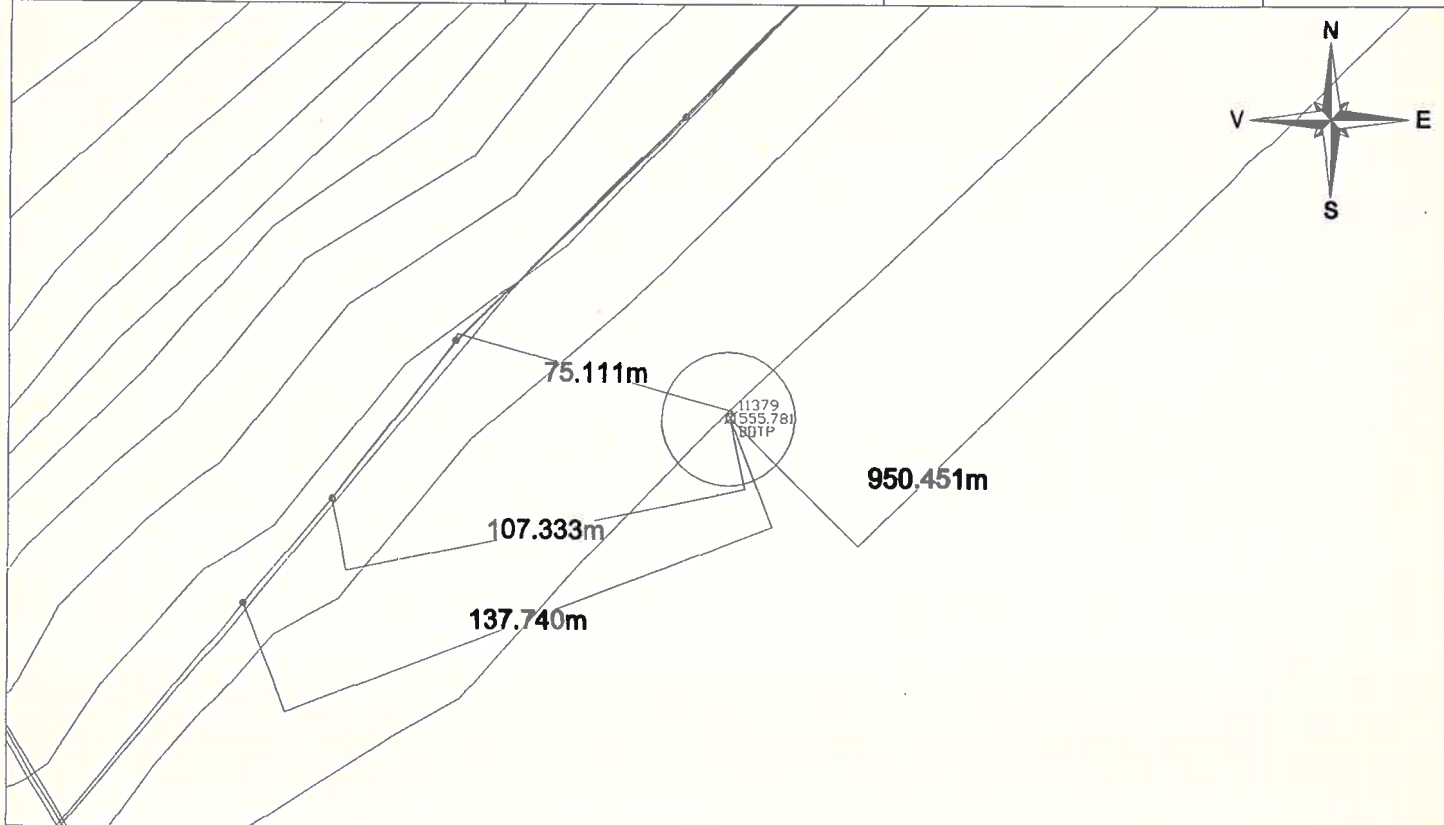
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
11379	524769.929	473097.070	555.781	BOTP



Descrierea punctului : materializare = cui de beton

Punctul se afla la 75.111m fata de stalpul de beton, la 107.333m fata de beton , la 137.740m fata de stalpul de beton si la 950.451m fata de punctul 10328.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

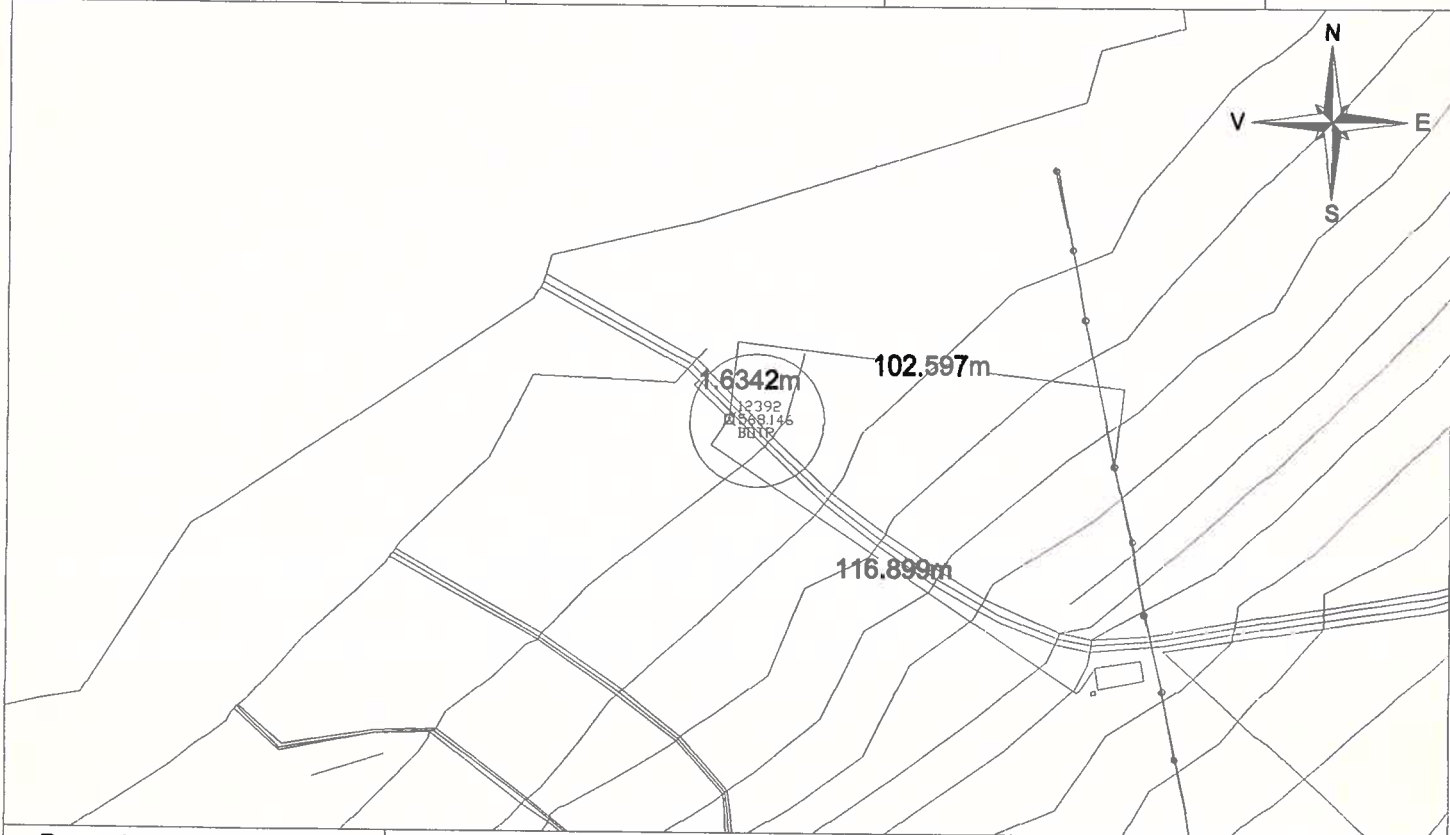
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
12392	523889.018	472444.575	568.146	BOTP



Descrierea punctului : materializare =borna feno

Punctul se afla la 1.63m fata de marginea drumului de balast , la 102.597m fata de stalpul de beton si la 116.898 m fata de capatul elementului de beton.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

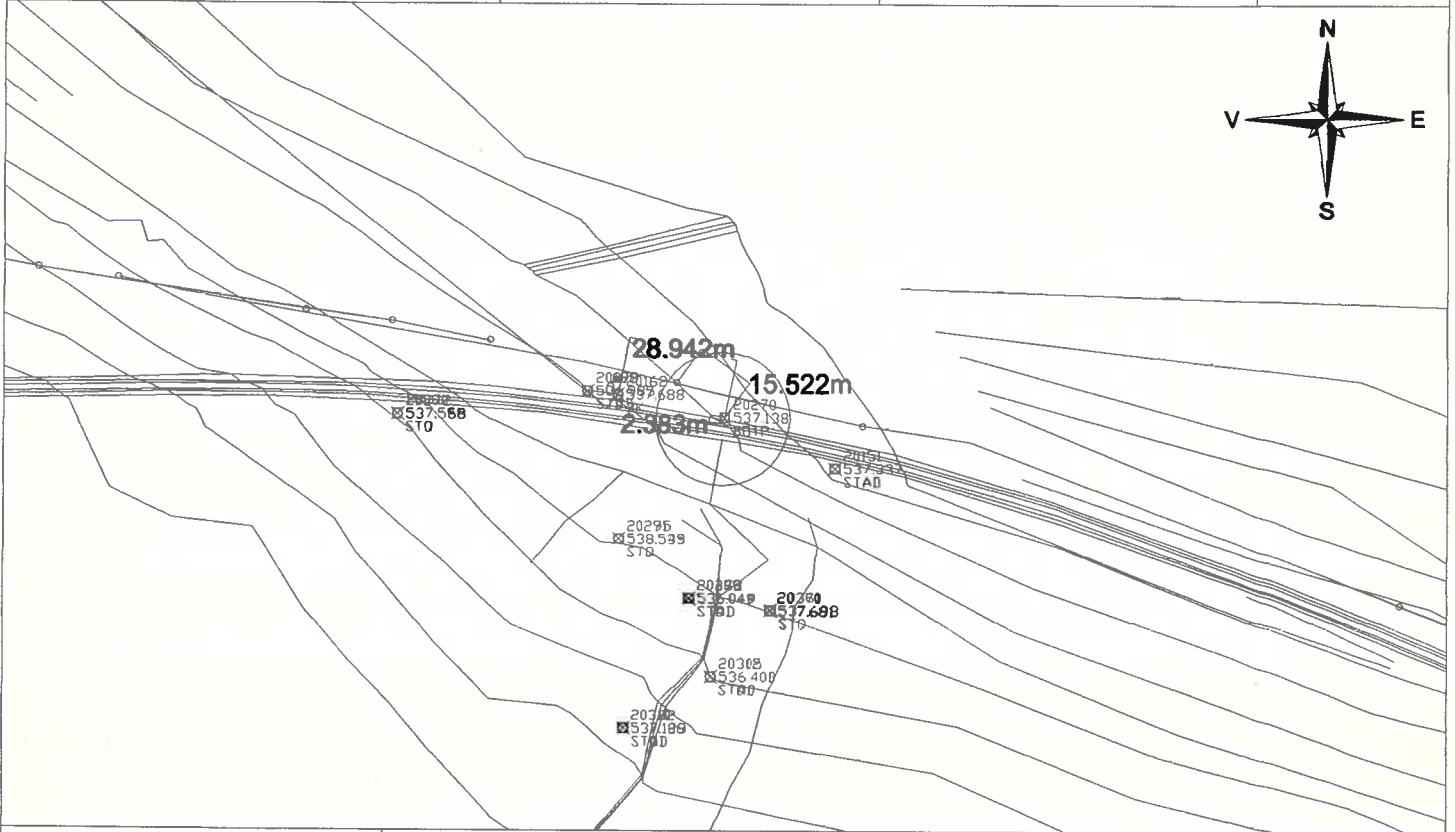
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
20270	530344.631	473680.162	537.138	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 2.383m fata de calea ferata, la 28.942m fata de borna kilometrica si la 15.522m fata de stalpul de lemn.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

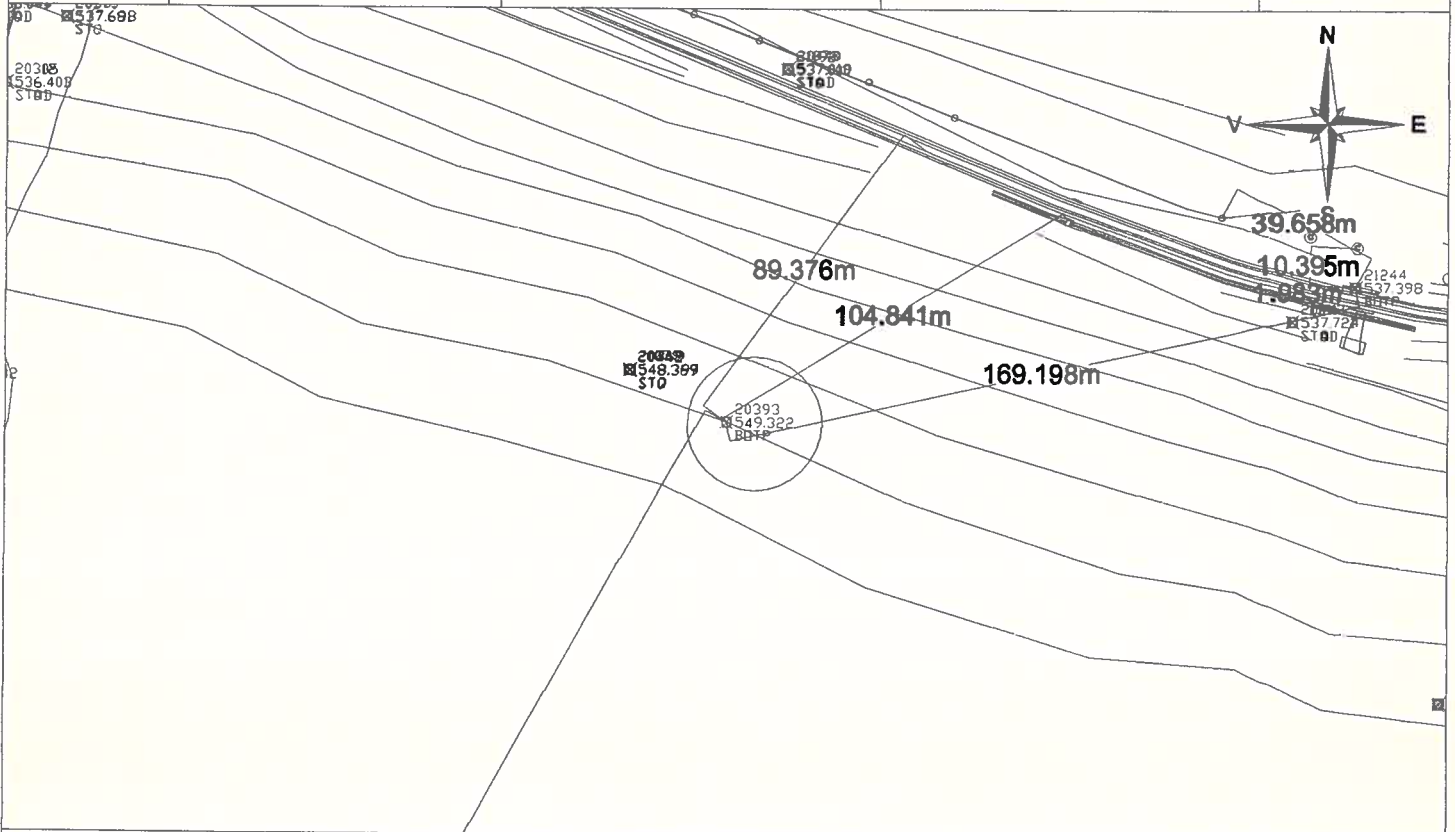
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
20393	530531.227	473522.276	549.322	BOTP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 89.376m fata de calea ferata, la 104.841m fata de coltul coronamentului podetului si la 169.198 m fata de punctul 21244.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

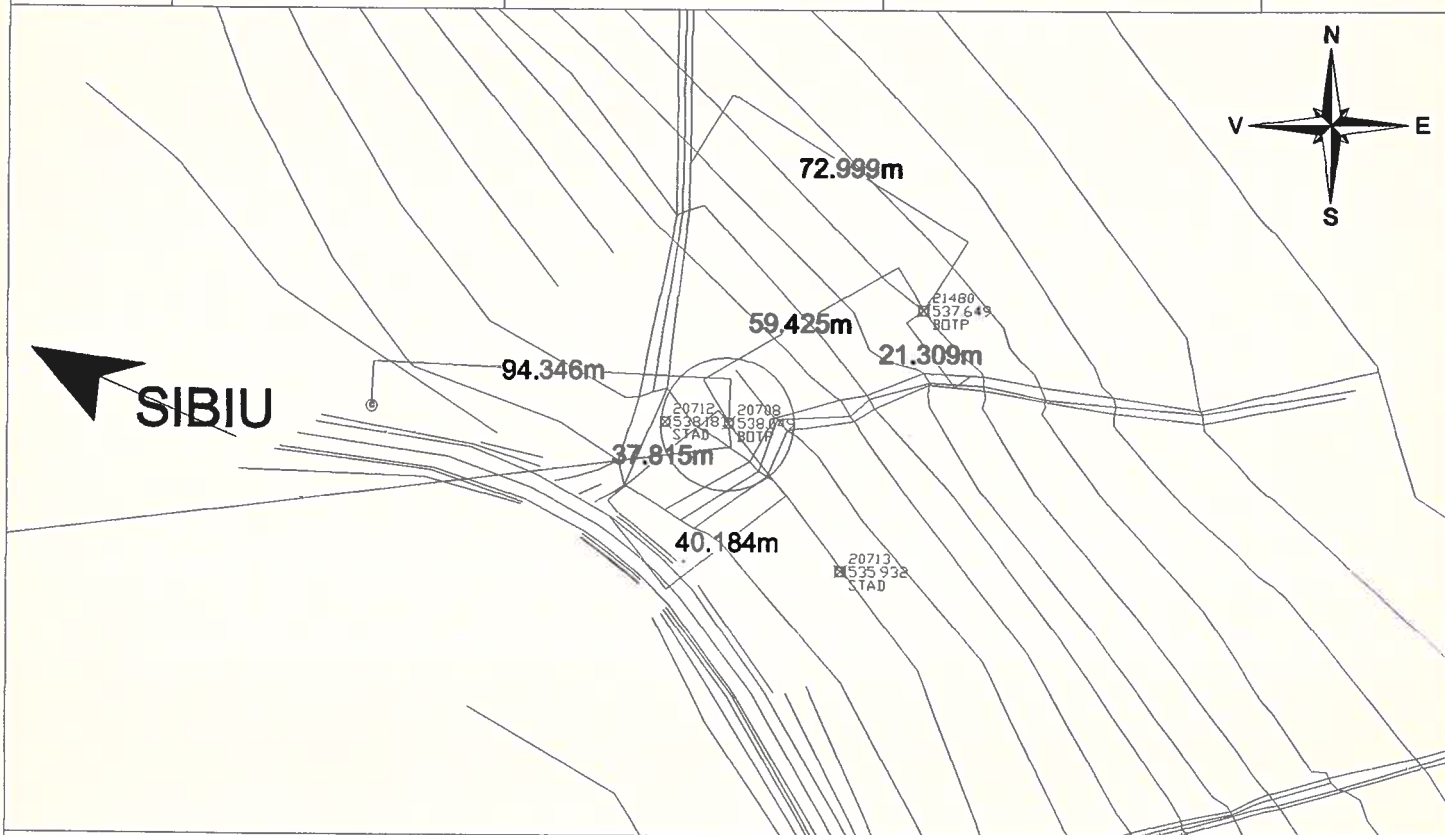
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
20708	531178.391	473191.697	538.049	BOTP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 40.184m fata de marginea drumului, la 37.815m fata de capatul mana curenta pod si la 94.346m fata de camin canalizare.





# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

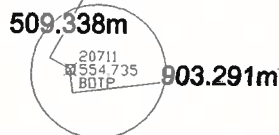
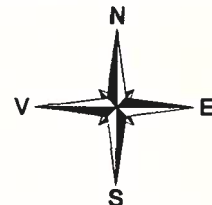
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
20711	530282.325	473077.932	554.735	BOTP



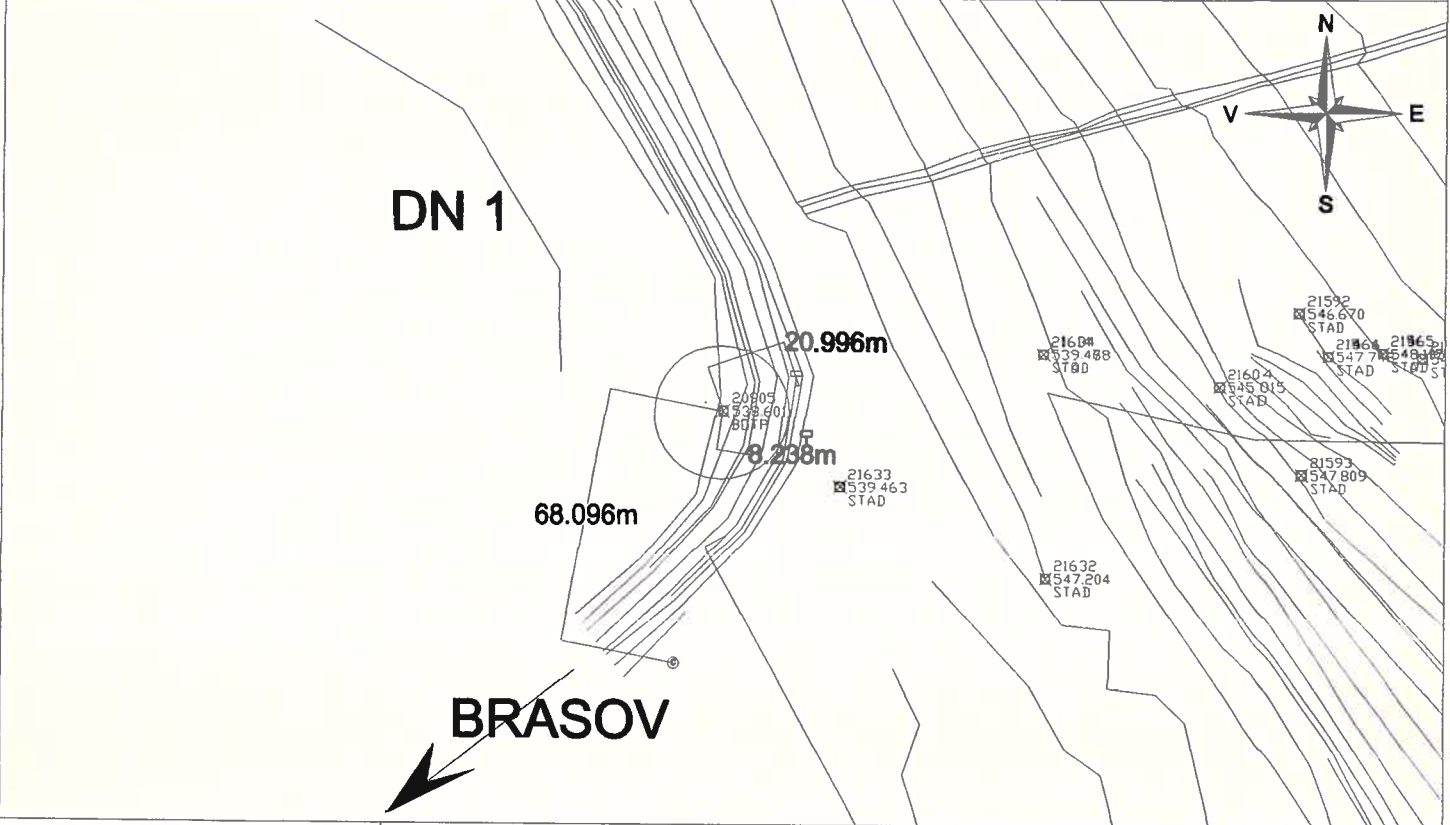
Descrierea punctului : materializare = borna feno

Punctul se afla pe drumul judetean la intrare in localitatea Vladeni, la 903.291m fata de punctul 20708 si la 509.338m fata de punctul 20393.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
20905	531217.947	473013.121	538.601	BOTP

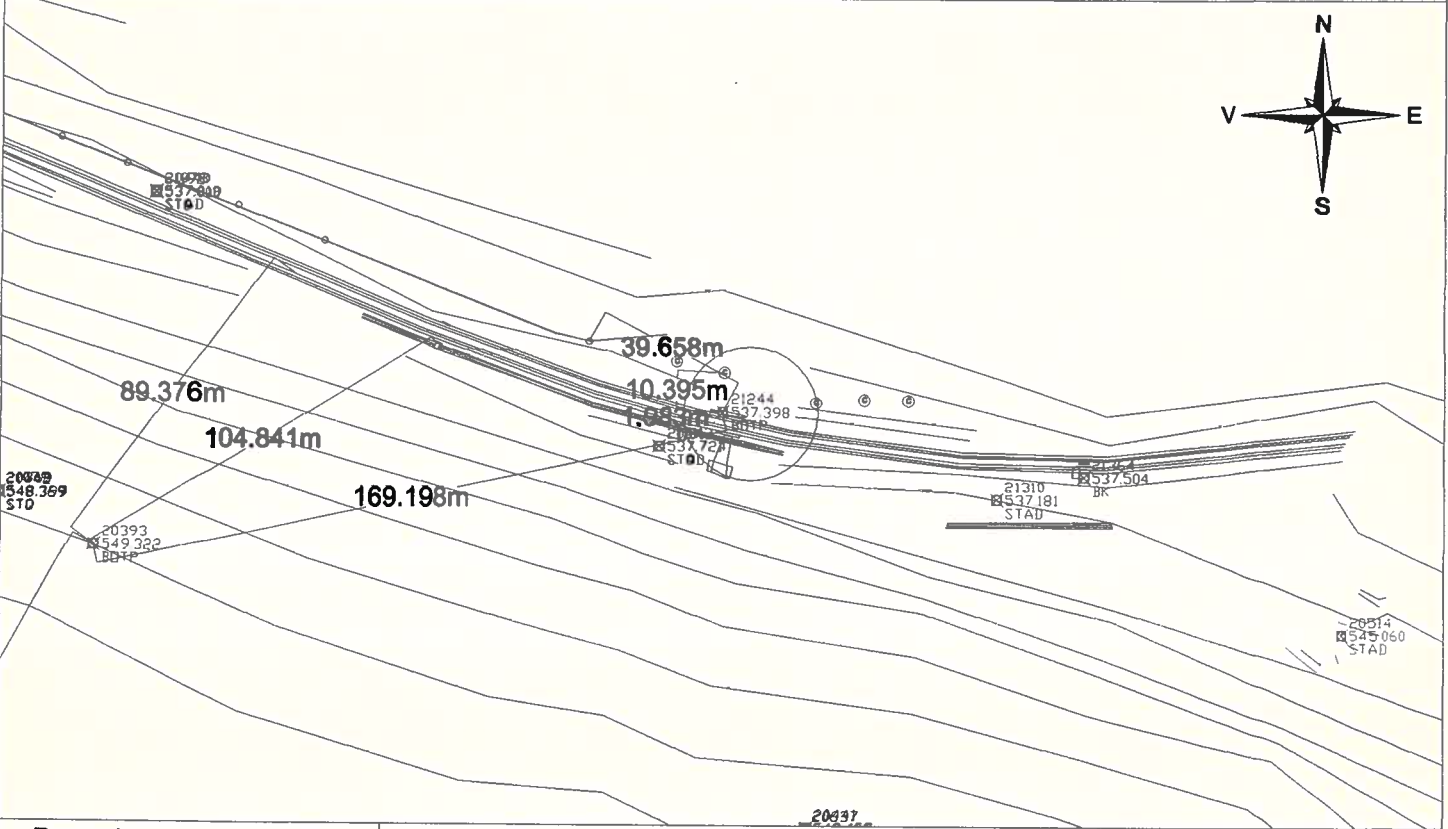


Descrierea punctului :	materializare = borna feno
	Punctul se afla la 8.238m fata de marginea drumului, la 20.996m fata de indicatorul rutier si la 68.096m fata de camin canalizare.

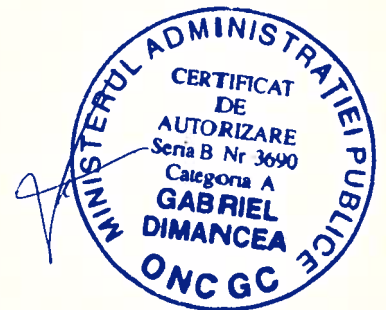


**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
21244	530696.462	473558.680	537.398	BOTP

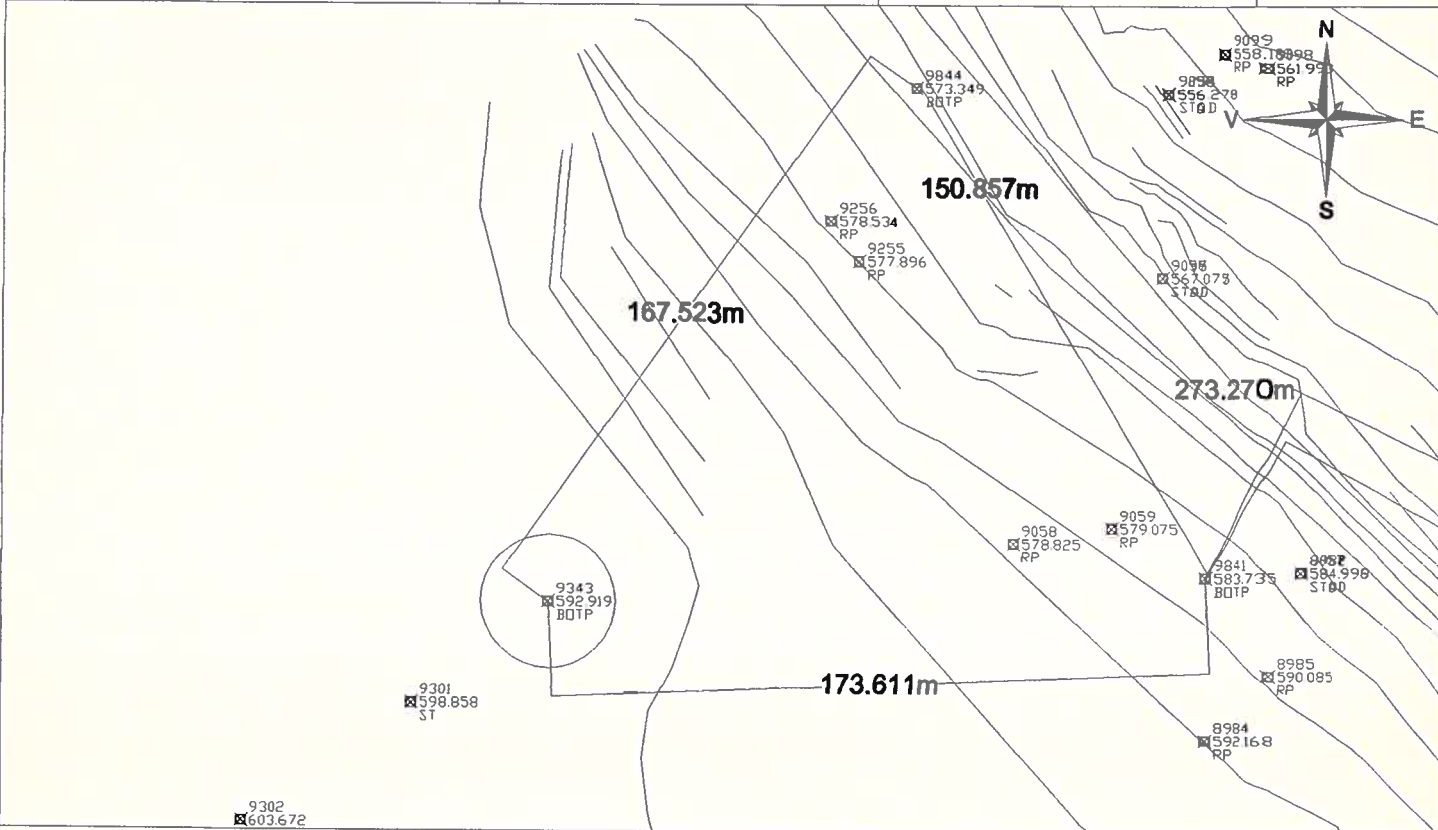


<b>Descrierea punctului :</b>	<b>materializare = borna feno</b>
	Punctul se afla la 1.983m fata de calea ferata, la 10.395m fata de camin canalizare si la 39.658 m fata de stalpul de lemn.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
9343	531452.677	472620.928	592.919	BOTP

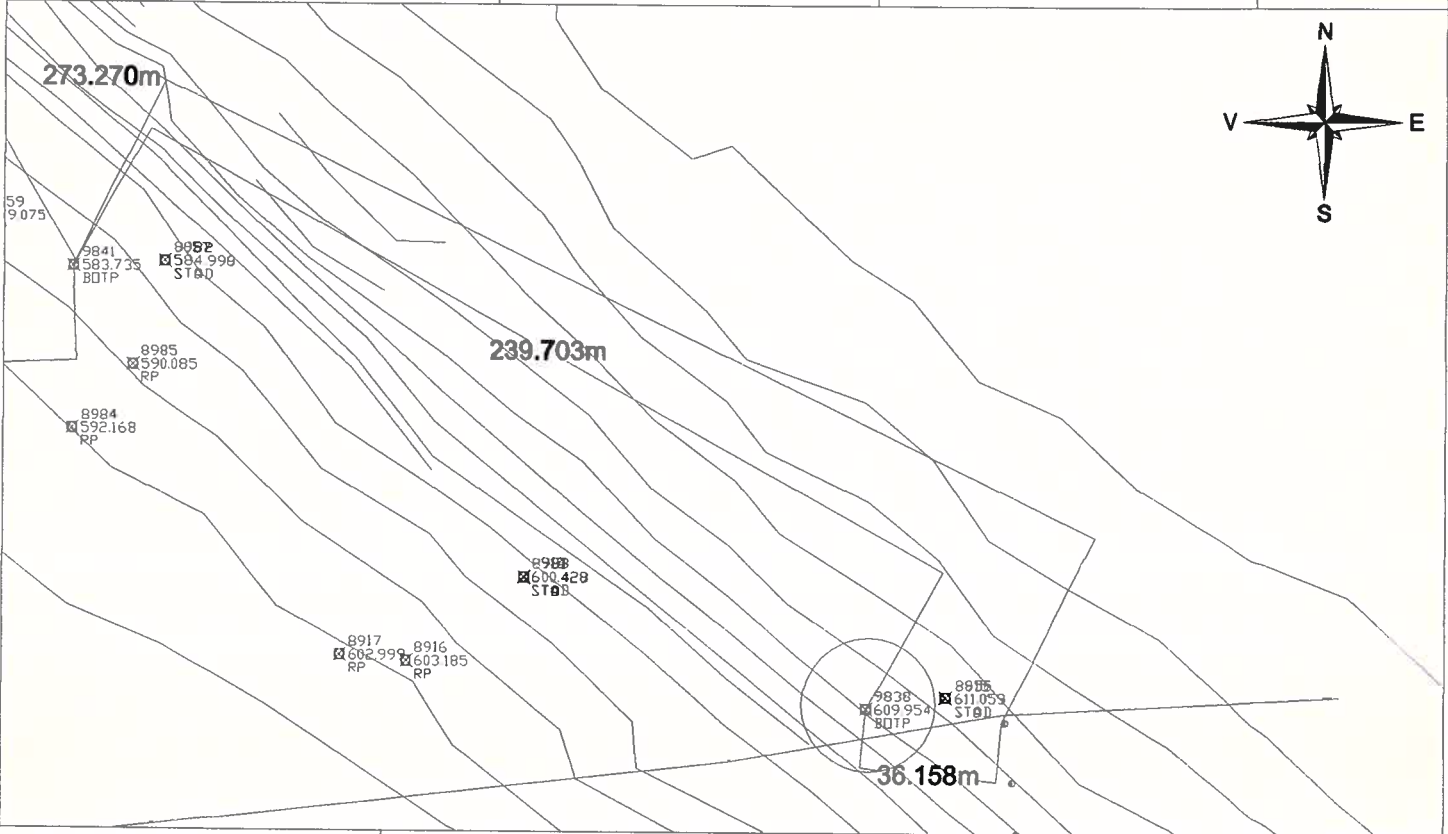


Descrierea punctului :	materializare = borna feno
	Punctul se afla la 167.523m fata de punctul 9844 si la 173.611m fata de punctul 9841.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
9838	531835.626	472511.326	609.954	BOTP

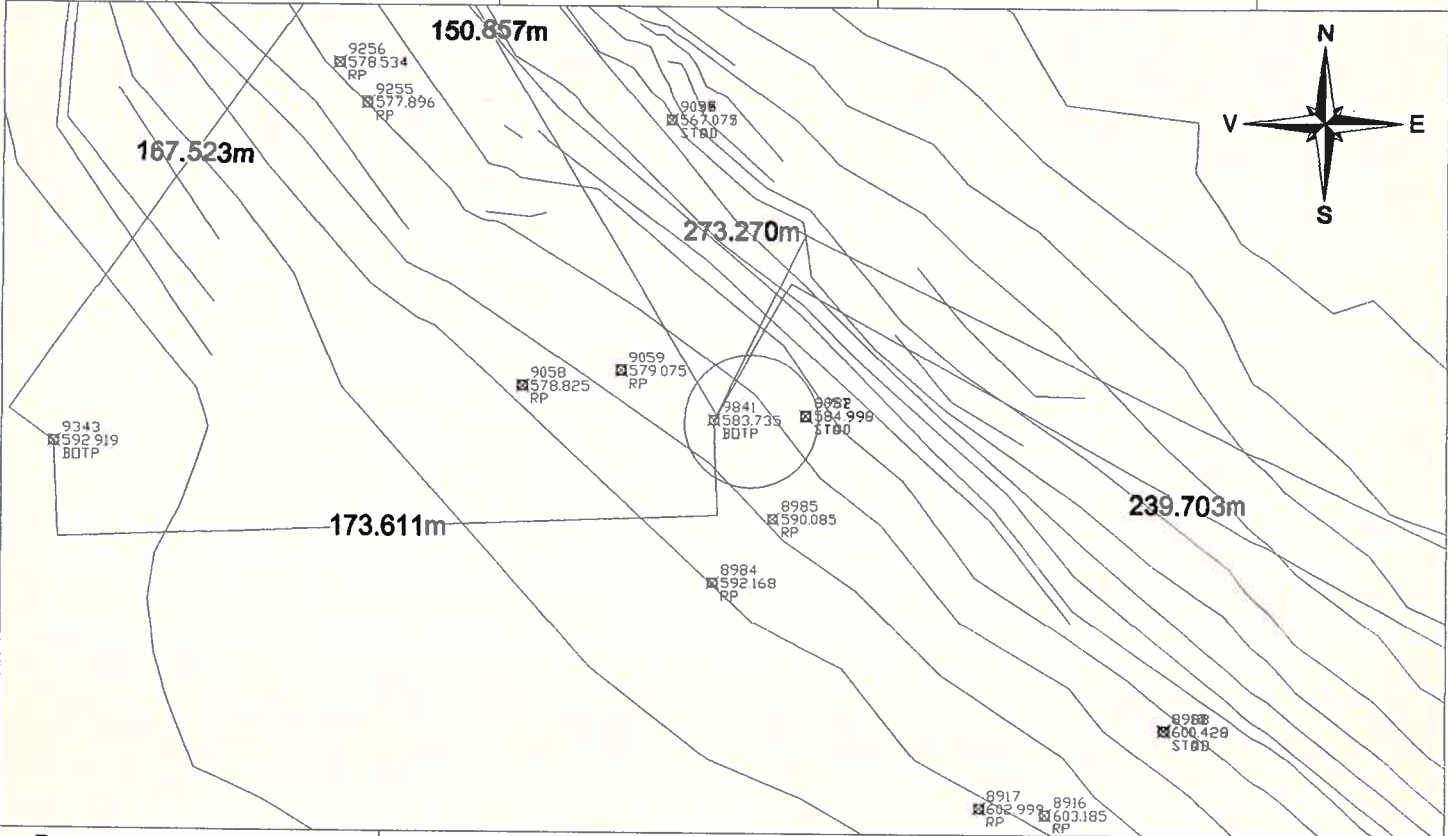


Descrierea punctului :	materializare = borna feno
	Punctul se afla la 36.158m fata de stalpul de beton si la 239.703m fata de punctul 9841.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
9841	531626.148	472627.911	583.735	BOTP

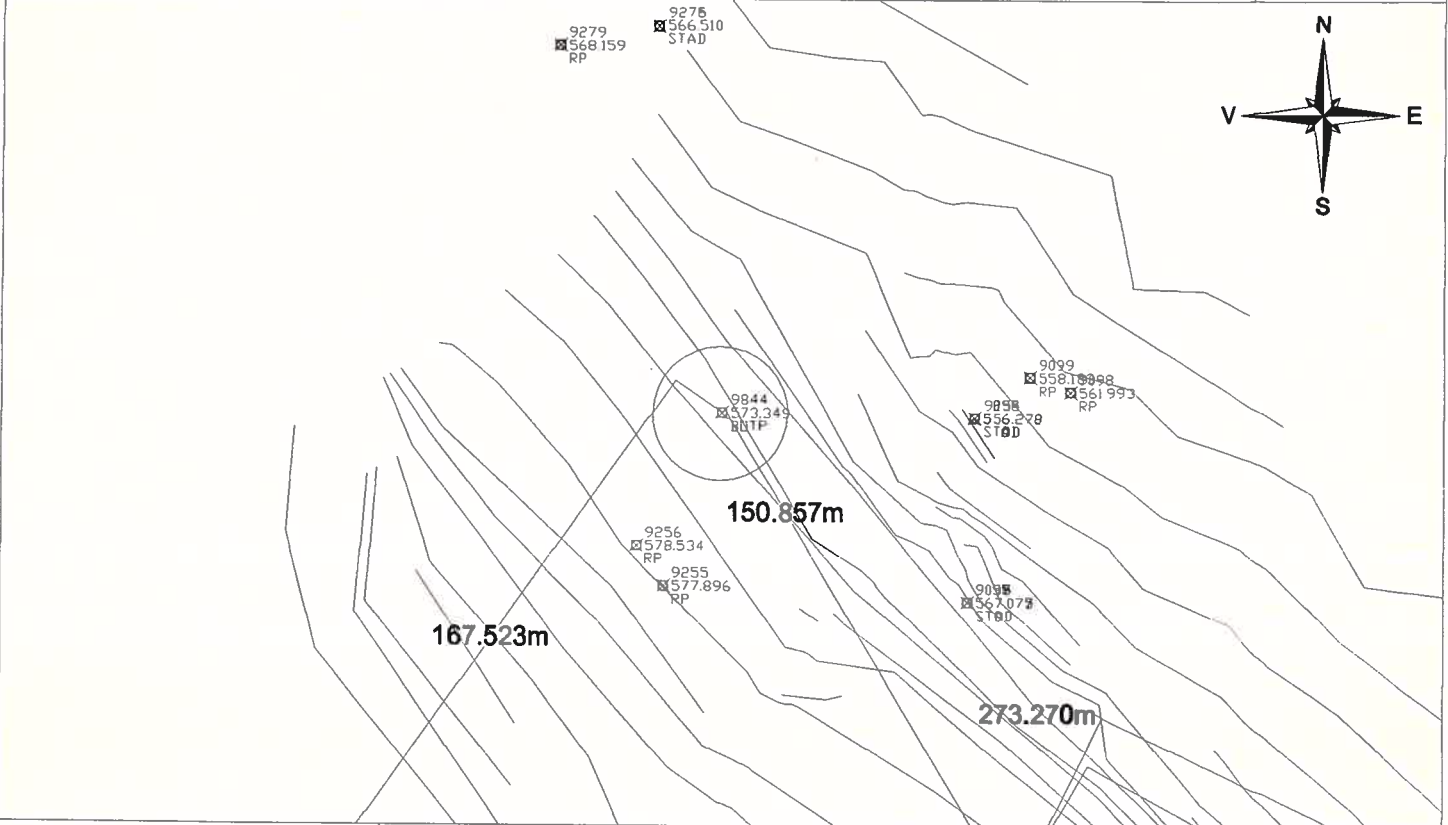


<b>Descrierea punctului :</b>	<b>materializare = borna feno</b>
	Punctul se afla la 173.611m fata de punctul 9343, la 239.703m fata de punctul 9838, la 150.857m fata de punctul 9844 si la 273.270m fata de stalpul de beton.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
9844	531549.380	472757.721	573.349	BOTP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 150.857m fata de punctul 9841 si la 167.523m fata de punctul 9343.

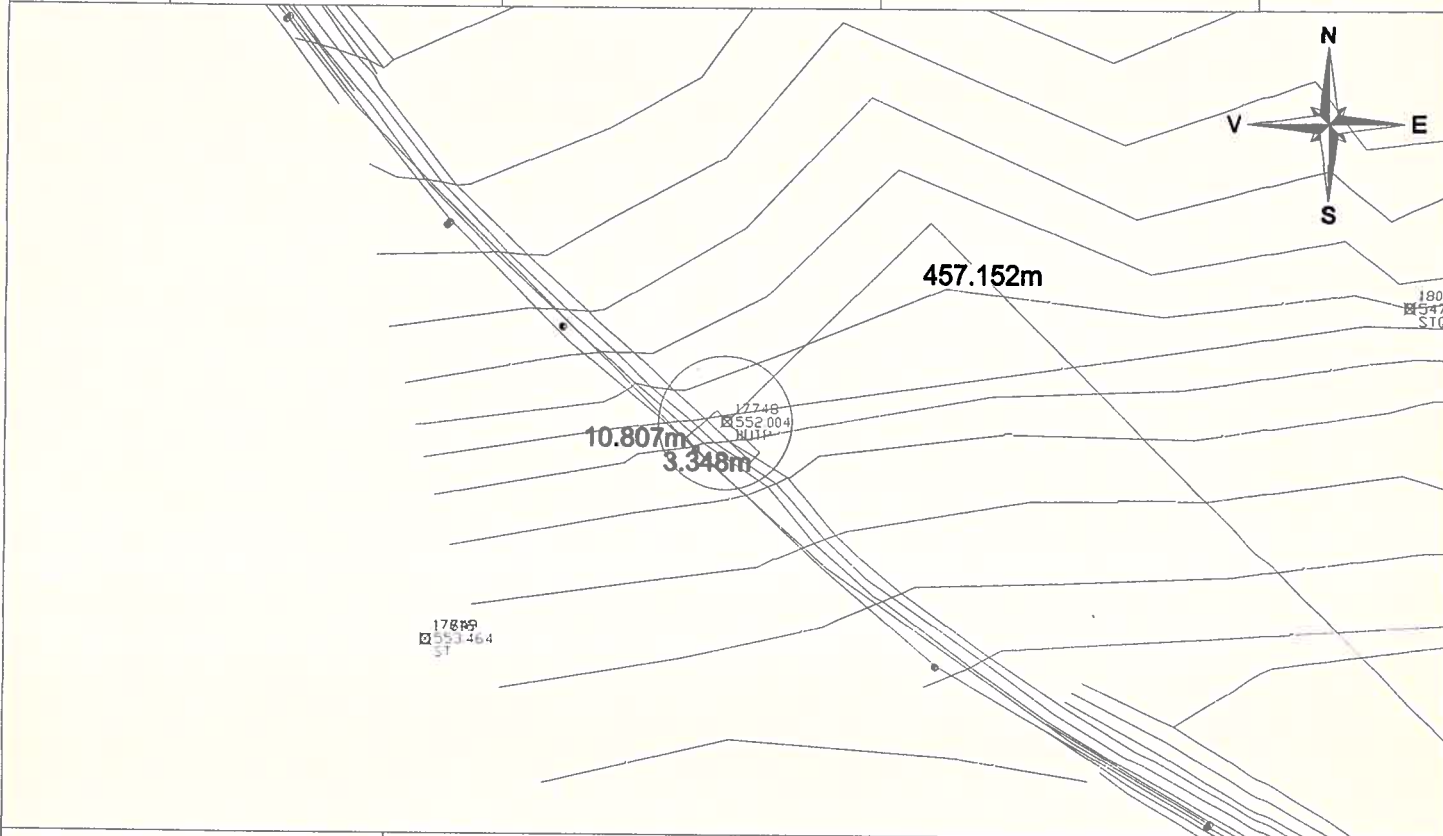






**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
17748	528168.122	475220.893	552.004	BOTP



<b>Descrierea punctului :</b>	<b>materializare = borna feno</b>
	Punctul se afla la 3.348m fata de marginea drumului vicinal, la 10.807m fata de stalpul de beton si la 457.152 m fata de indicatorul rutier din localitatea Vladeni.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

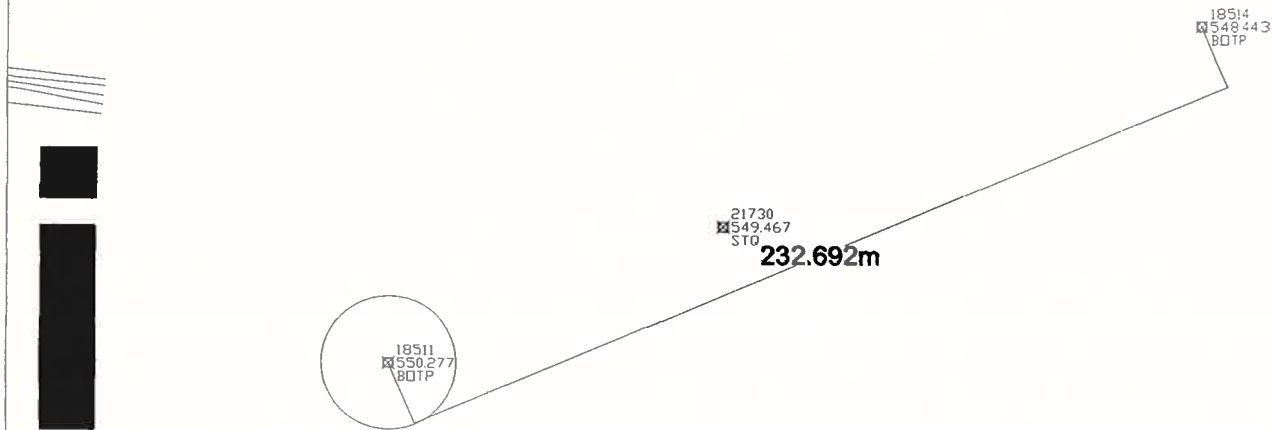
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
18511	528779.335	474700.266	550.277	BOTP



Descrierea punctului : materializare = borna feno

Punctul se afla in localitatea Vladeni pe marginea drumului national, la 232.692m fata de punctul 18514.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

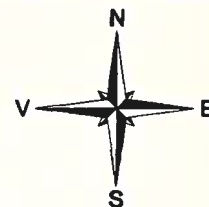
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
18514	528993.769	474790.619	548.443	BOTP



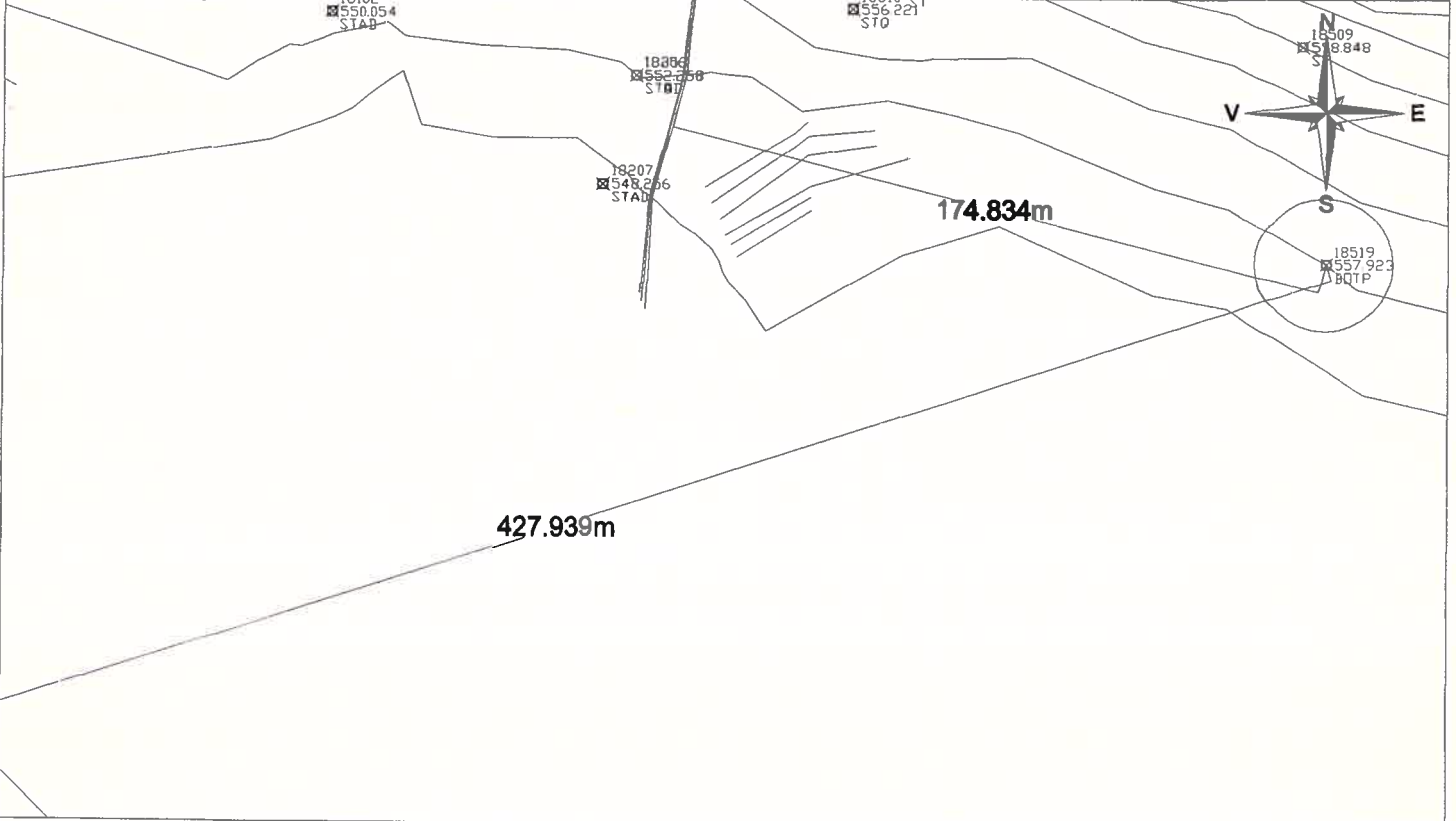
Descrierea punctului : materializare = borna feno

Punctul se afla in localitatea Vladeni, pe marginea drumului national, la 232.692m fata de punctul 18511.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
18519	528849.964	475126.814	557.923	BOTP

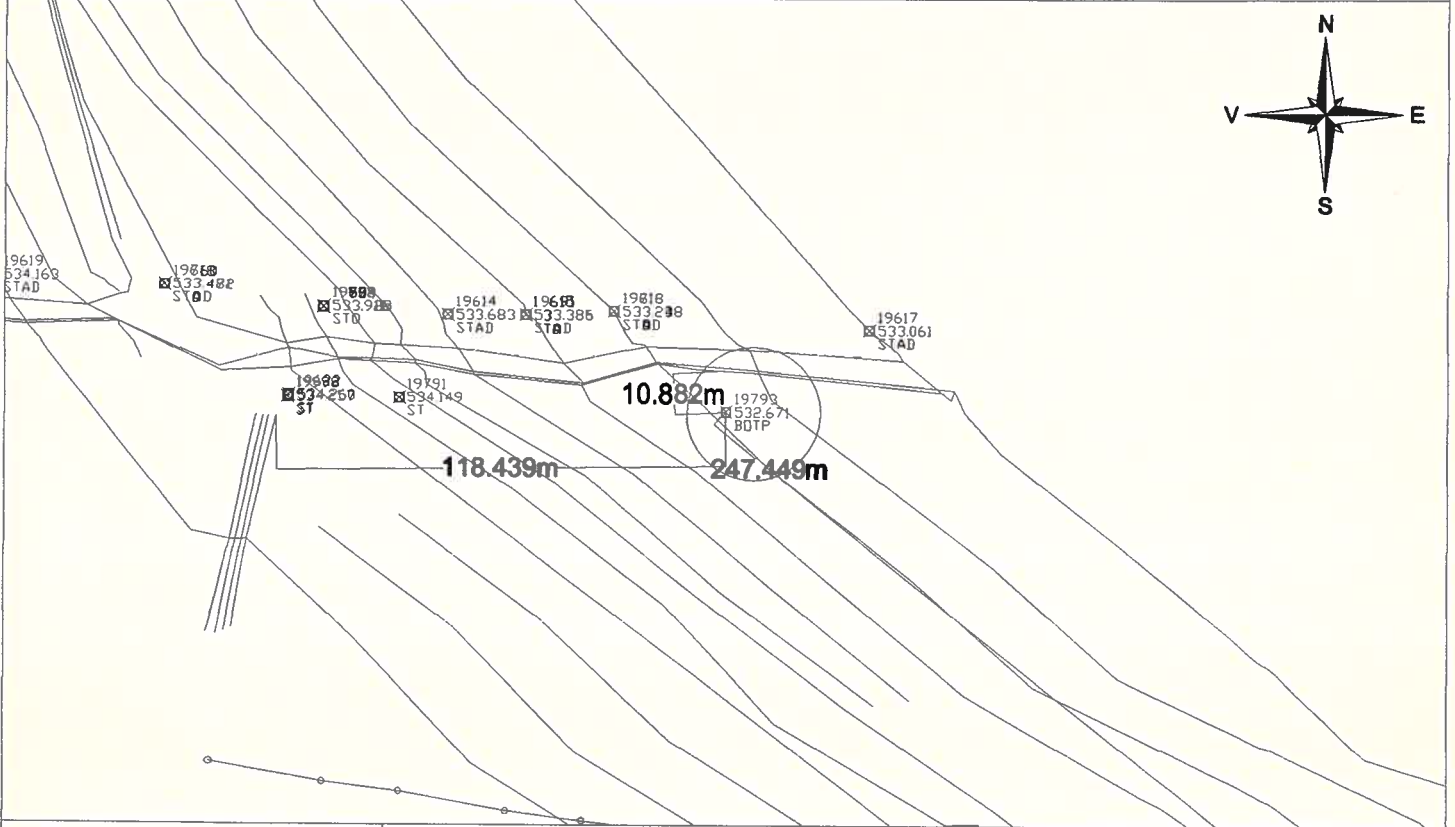


<b>Descrierea punctului :</b>	<b>materializare = borna feno</b>
	Punctul se afla la 174.834m fata de marginea apei si la 427.939m fata de marginea drumului de balast.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
19793	530123.224	473840.999	532.671	BOTP



<b>Descrierea punctului :</b>	<b>materializare = borna feno</b>
	Punctul se afla la 10.882m fata de marginea apei, la 247.449m fata de borna kilometrica si la 118.439m fata de margina canalului de irigatii.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

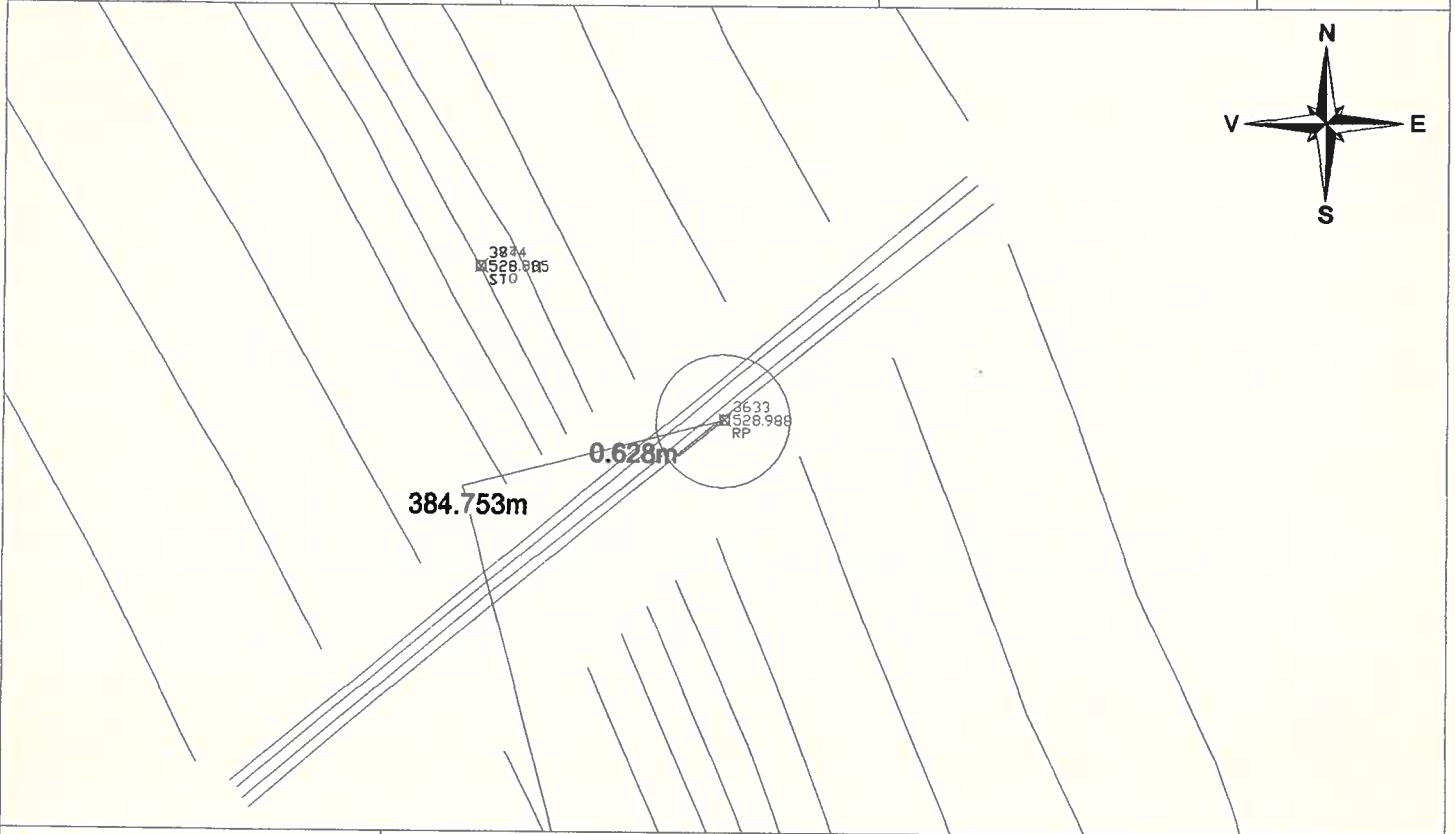
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
3633	537479.294	469935.656	528.988	RP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 0.628m fata de marginea canalului de irigatii si la 384.753m fata de punctul 3875.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

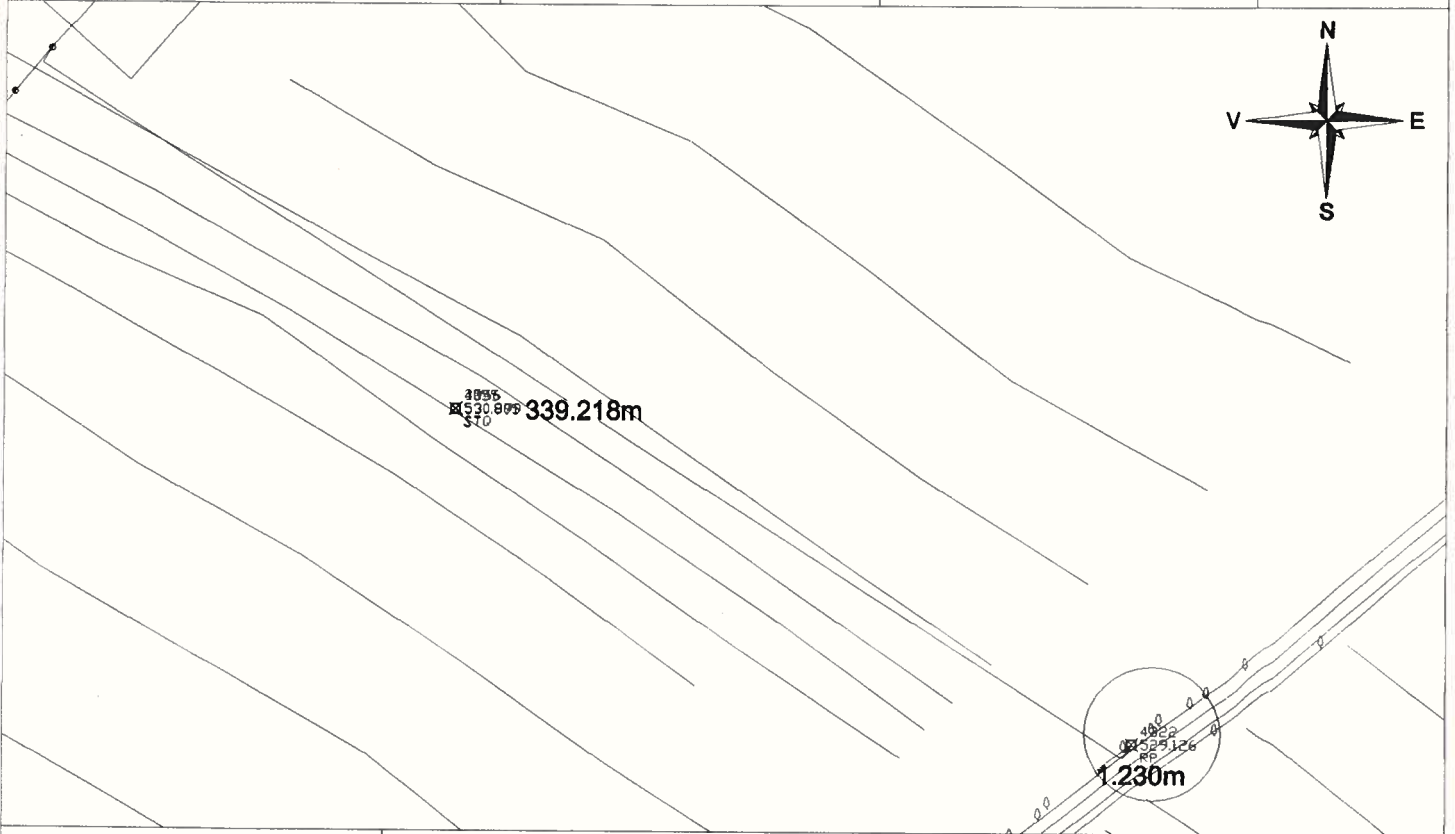
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
4322	536985.610	470536.888	529.126	RP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 1.230m fata de marginea canalului de irigatie si la 339.218m fata de stalpul de inalta tensiune.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

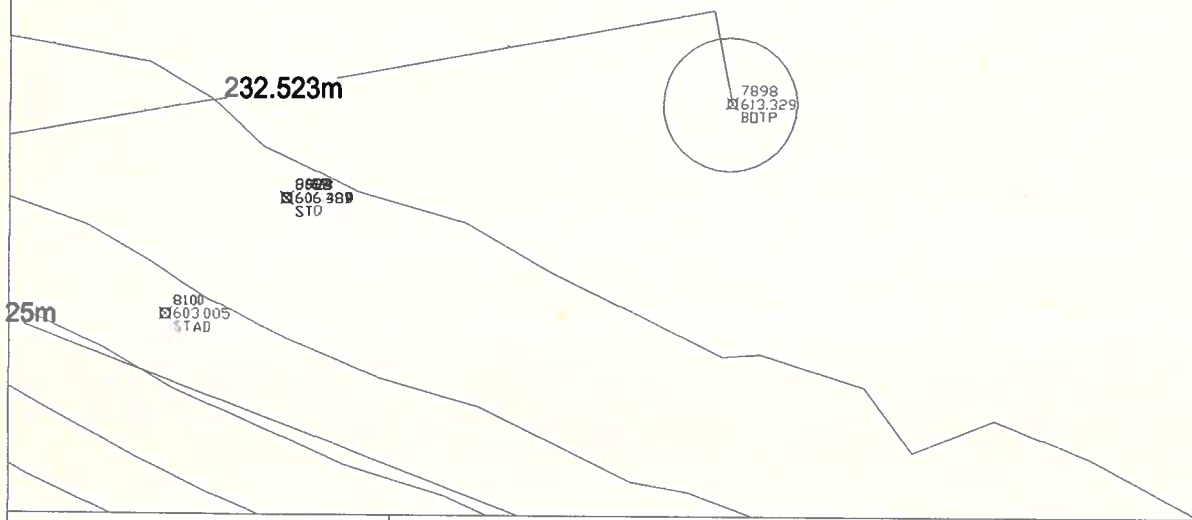
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
7898	533134.019	471848.399	613.329	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla in apropierea releului si la 232.523m fata de punctul 8155.





# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

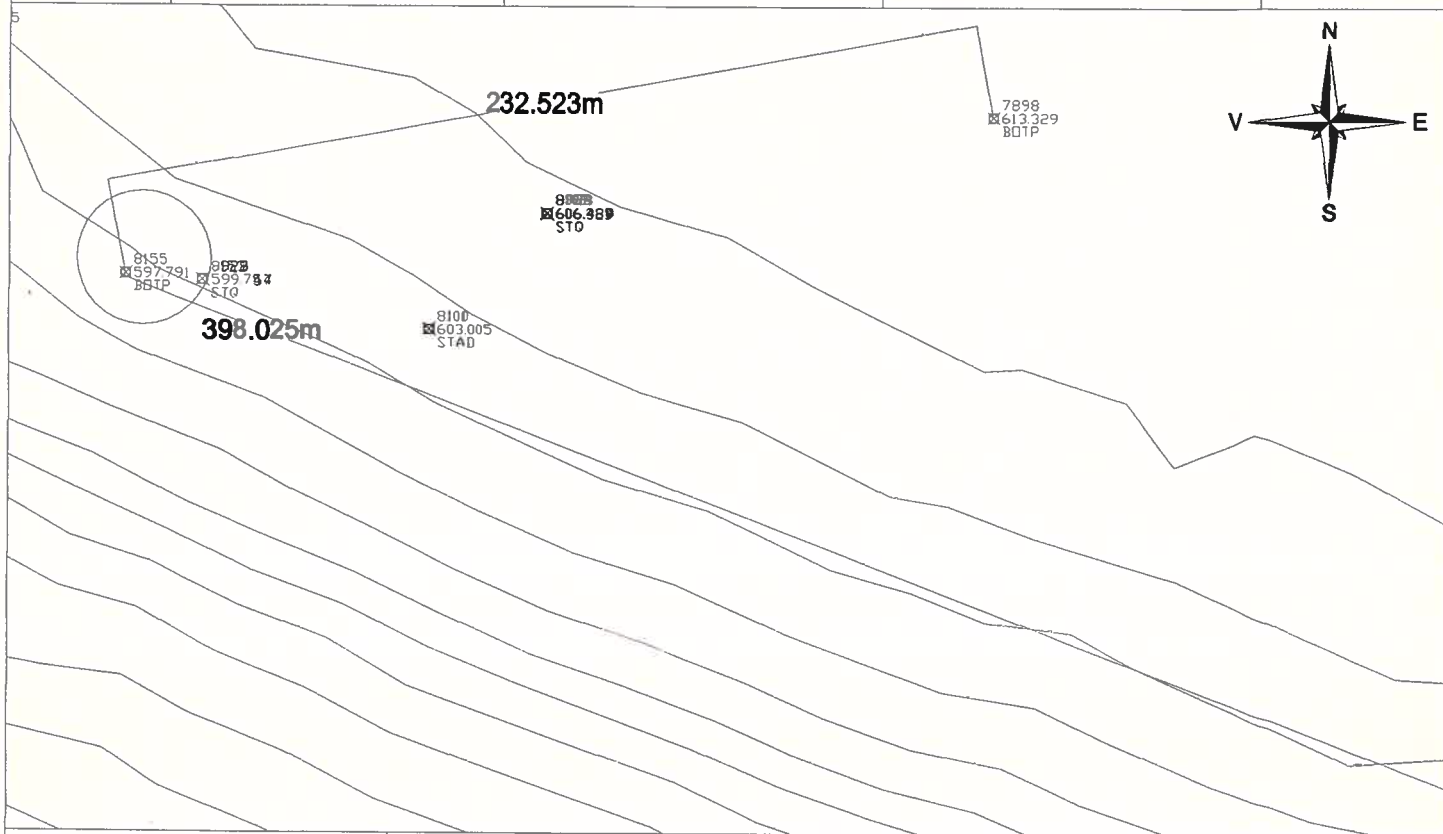
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
8155	532905.351	471806.235	597.791	BOTP



Descrierea punctului :

materializare = borna feno

Punctul se afla la 232.523m fata de punctul 7898 si la 398.025m fata de marginea canalului de irigatii.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

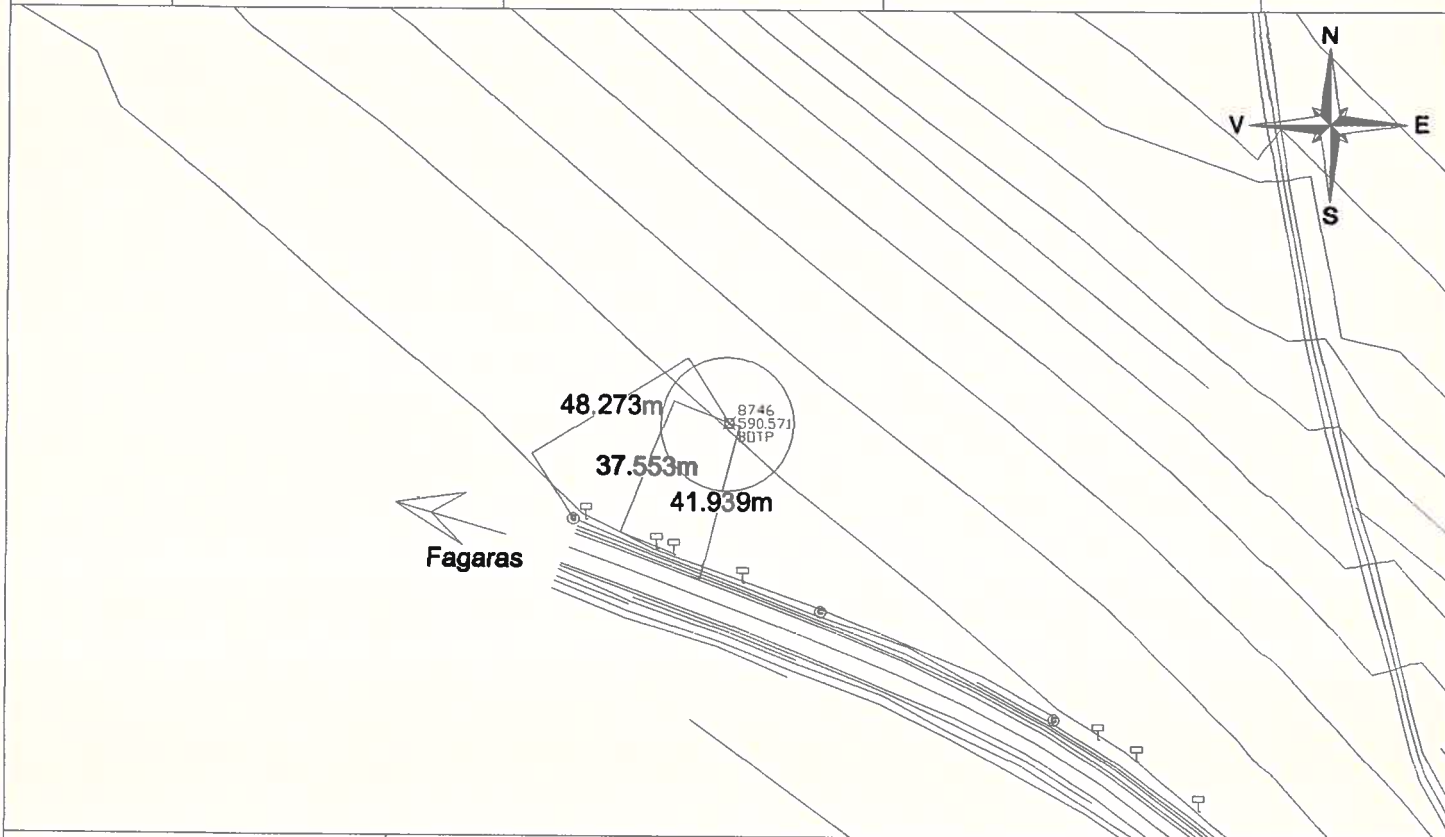
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
8746	532061.409	472205.802	590.571	BOTP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 41.939m fata de marginea drumul national, la 37.553m fata de indicatorul rutier si la 48.273m fata de camin canalizare.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

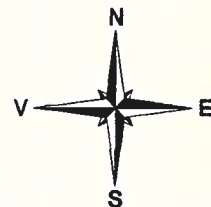
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
2282	536138.403	467276.935	543.894	ST



Descrierea punctului :	materializare = cui de beton
	Punctul se afla langa marginea drumului, la 94.454m fata de punctul 2279 si la 407.090m fata de punctul 1984.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

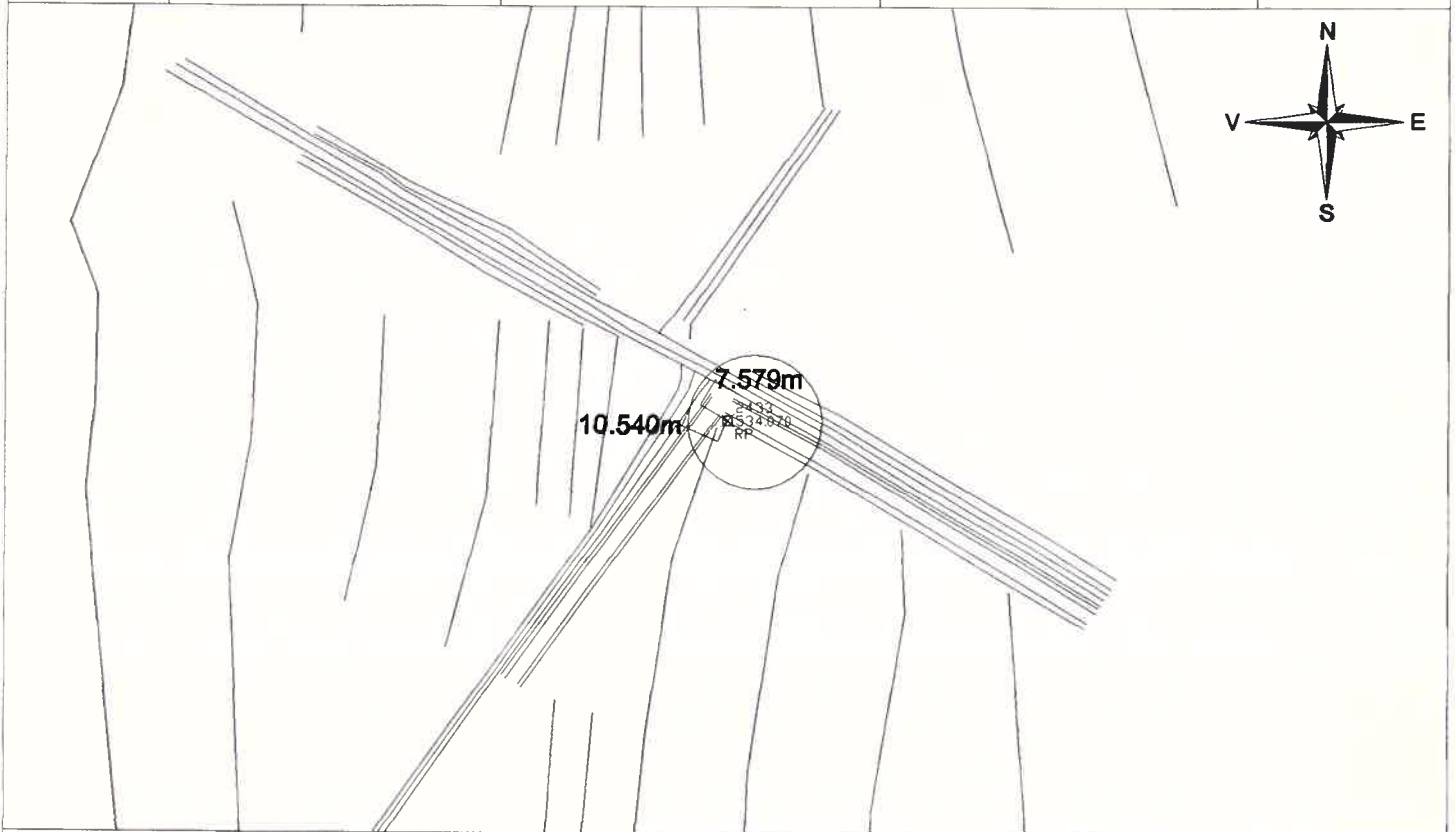
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
2433	537619.216	468685.968	534.070	RP

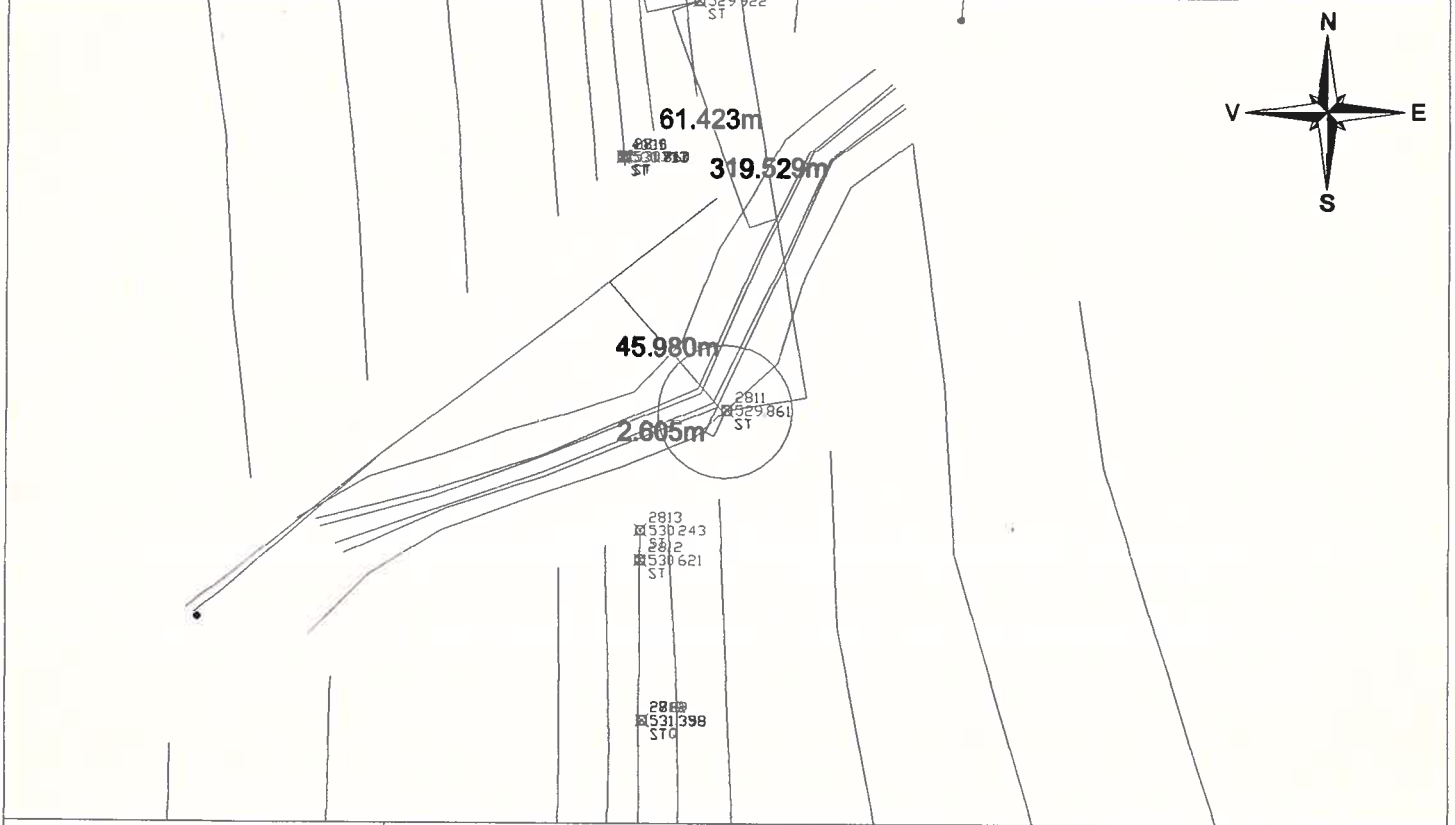


Descrierea punctului :	materializare = pichet metalic
	Punctul se afla la 7.579m fata de drumul de balast si la 10.540m fata de drumul de pamant.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
2811	537635.603	469241.515	529.861	ST



<b>Descrierea punctului :</b>	<b>materializare = pichet metalic</b>
	Punctul se afla la 2.605m fata de marginea canalului de irigatii, la 45.980m fata de linia de inalta tensiune si la 319.529m fata de drumul judetean 112.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

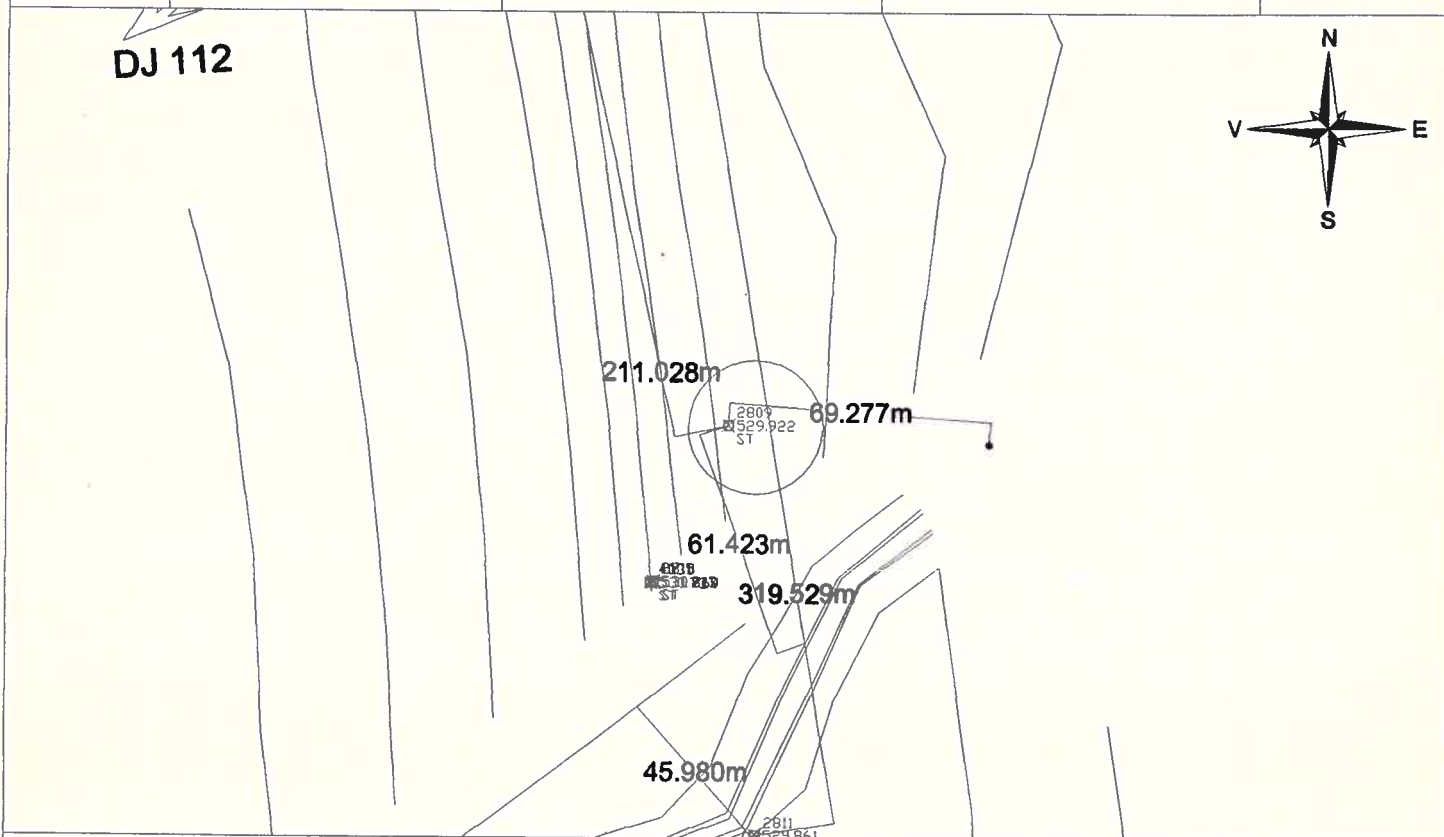
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
2809	537628.009	469350.457	529.922	ST

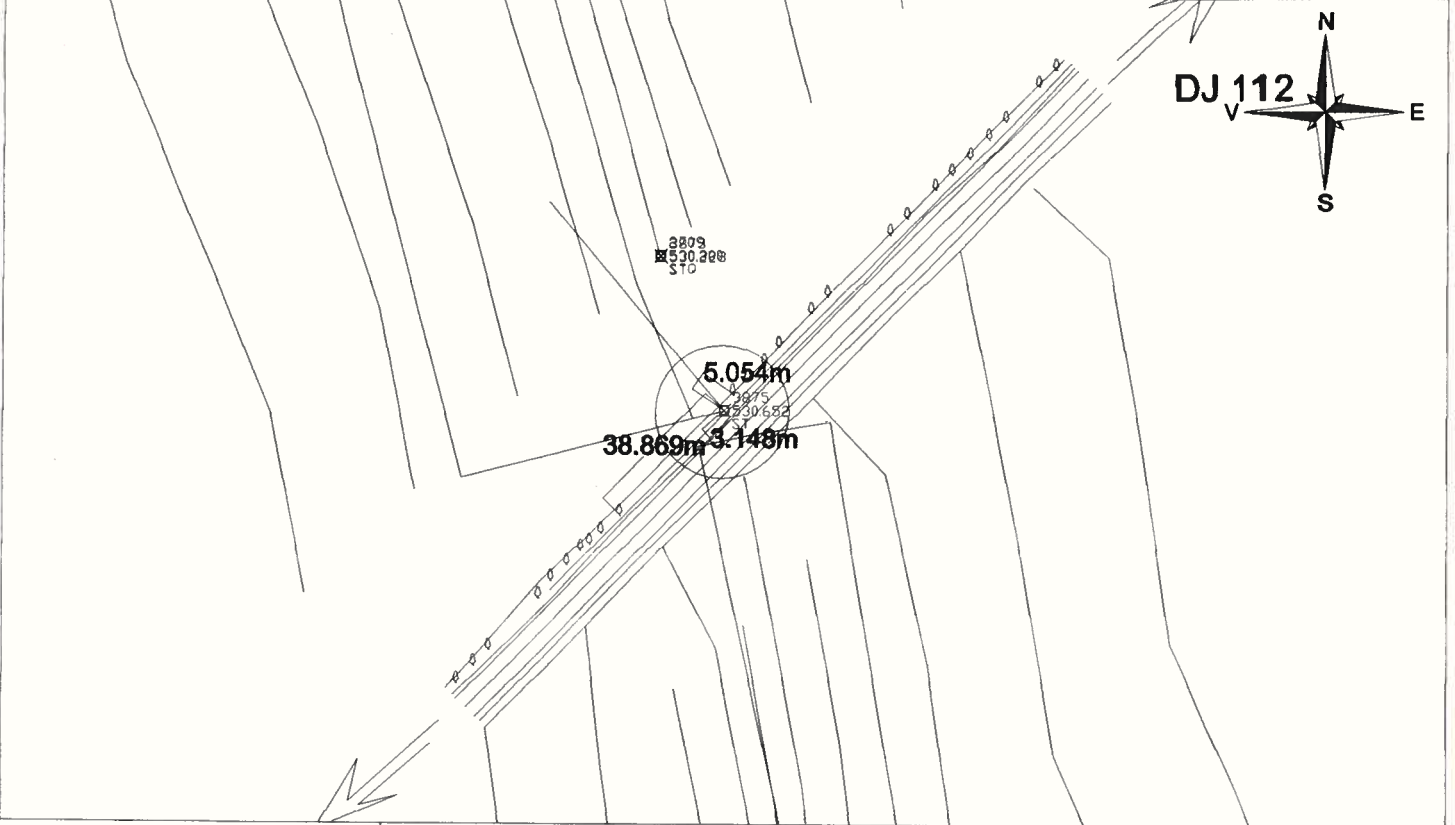


Descrierea punctului :	materializare = pichet metalic
	Punctul se afla la 61.423 fata de marginea canalului de irigatie, la 69.277m fata de stalpul de metal si la 211.028m fata de marginea drumului judetean 112.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
3875	537575.941	469563.241	530.652	ST



<b>Descrierea punctului :</b>	<b>materializare = pichet metalic</b>
	Punctul se afla la 3.148 m fata de marginea drumului judetea 112, la 5.054m fata de pom si la 38.869m fata de pom.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

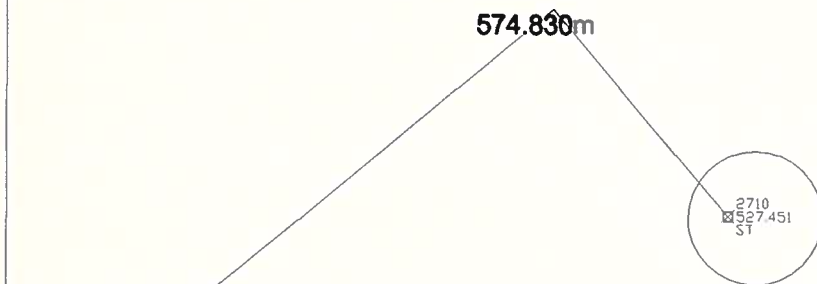
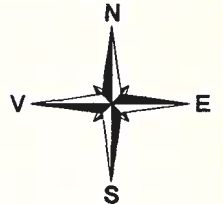
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
2710	538017.722	469930.919	527.451	ST



Descrierea punctului :

materializare = borna feno

Punctul se afla la 5.024m fata de marginea drumului judetea 112 si la 574.830m fata de punctul 3875





# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

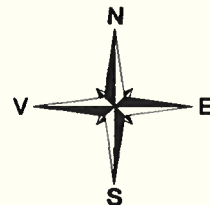
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
6063	534748.125	471610.123	541.030	BOTP



Descrierea punctului :

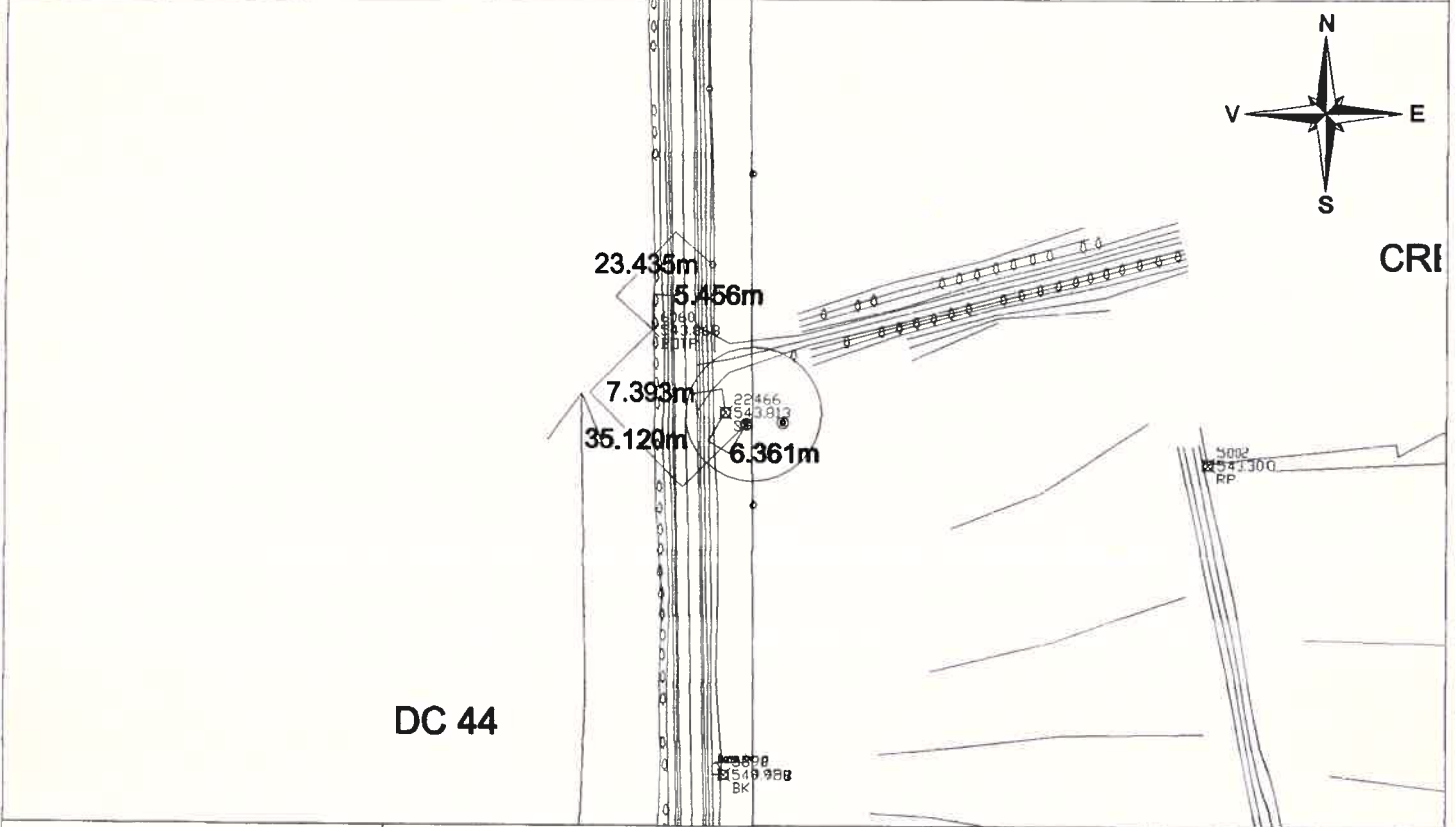
materializare = borna feno

Punctul se afla la 9.294m fata de marginea drumului si la 23.755m fata de stalpul de lemn pe partea dreapta a drumului in sensul crescator al kilometrajului.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
22466	534752.214	471228.743	543.813	ST



<b>Descrierea punctului :</b>	<b>materializare = borna feno</b>
	Punctul se afla la 7.393m fata de marginea drumului, si la 6.361m fata de camin canalizare, pe partea dreapta a drumului in sensul crescator al kilometrajului.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

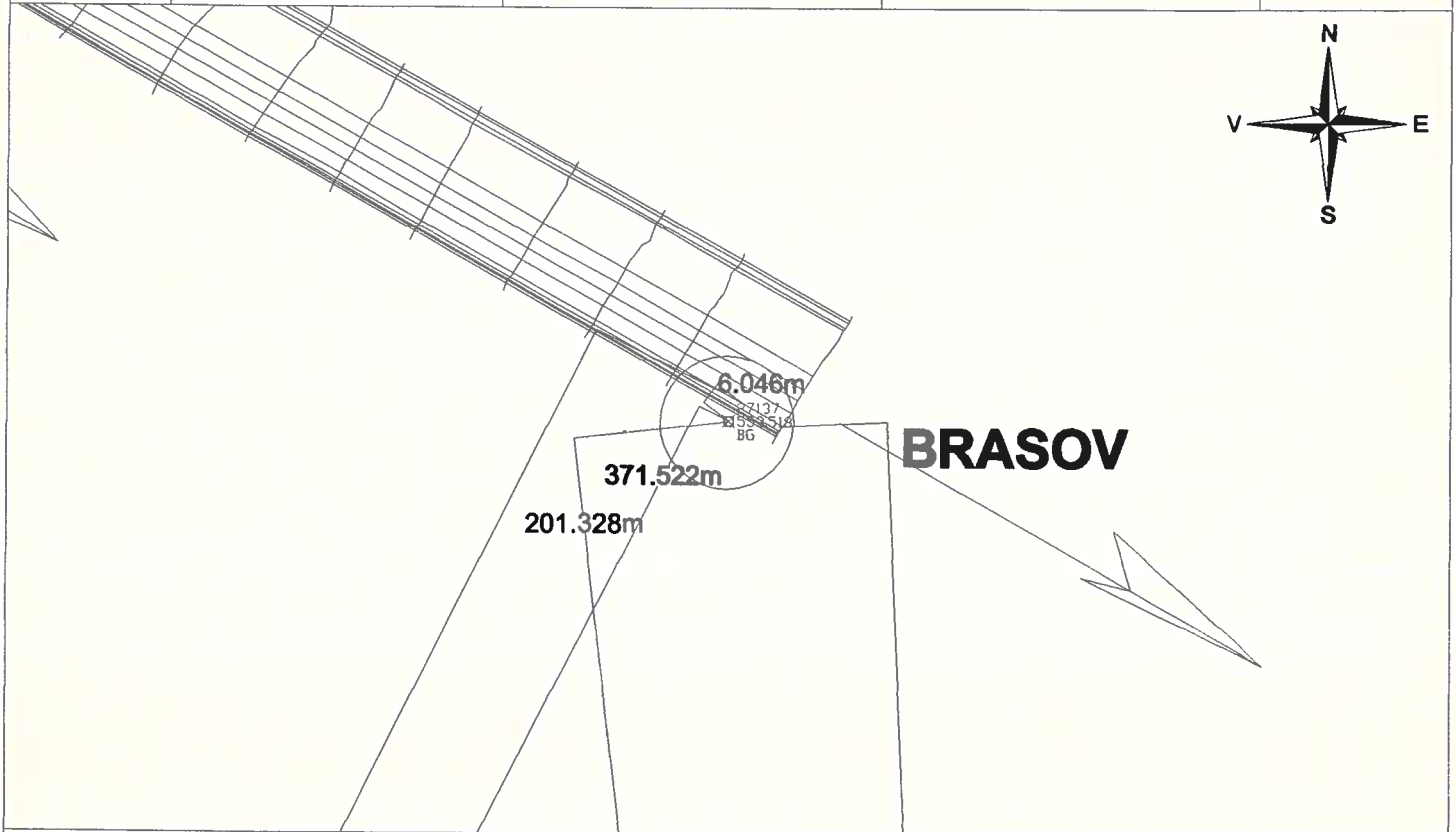
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
27137	537678.226	464272.175	553.518	BG



Descrierea punctului :	materializare = cui de beton
	Punctul se afla la 6.046m fata de marginea drumului , la 201.328m fata de punctul 1288 si la 371.522m fata de punctul 239.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

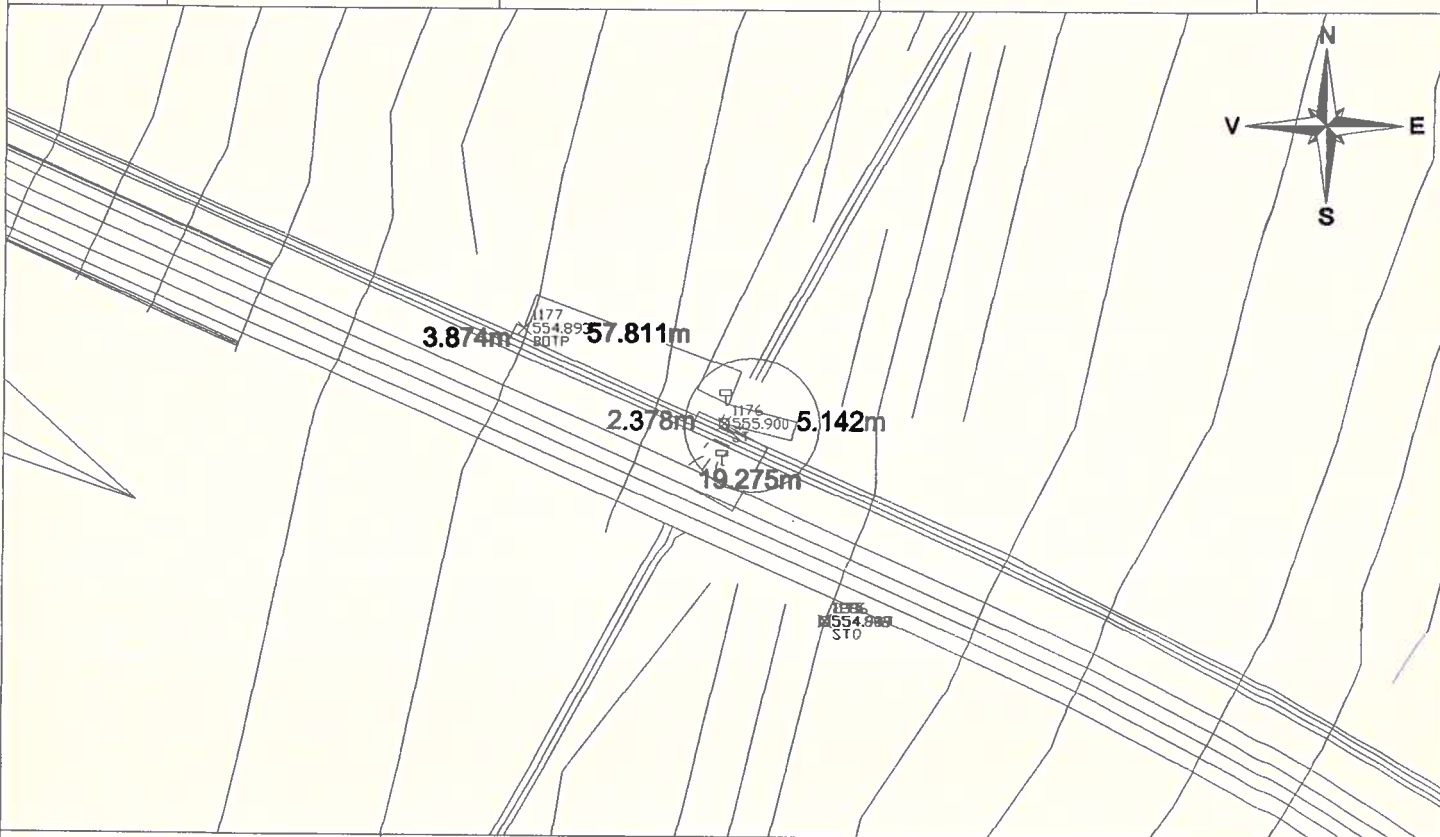
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
1176	537002.608	464699.422	555.900	ST



Descrierea punctului :

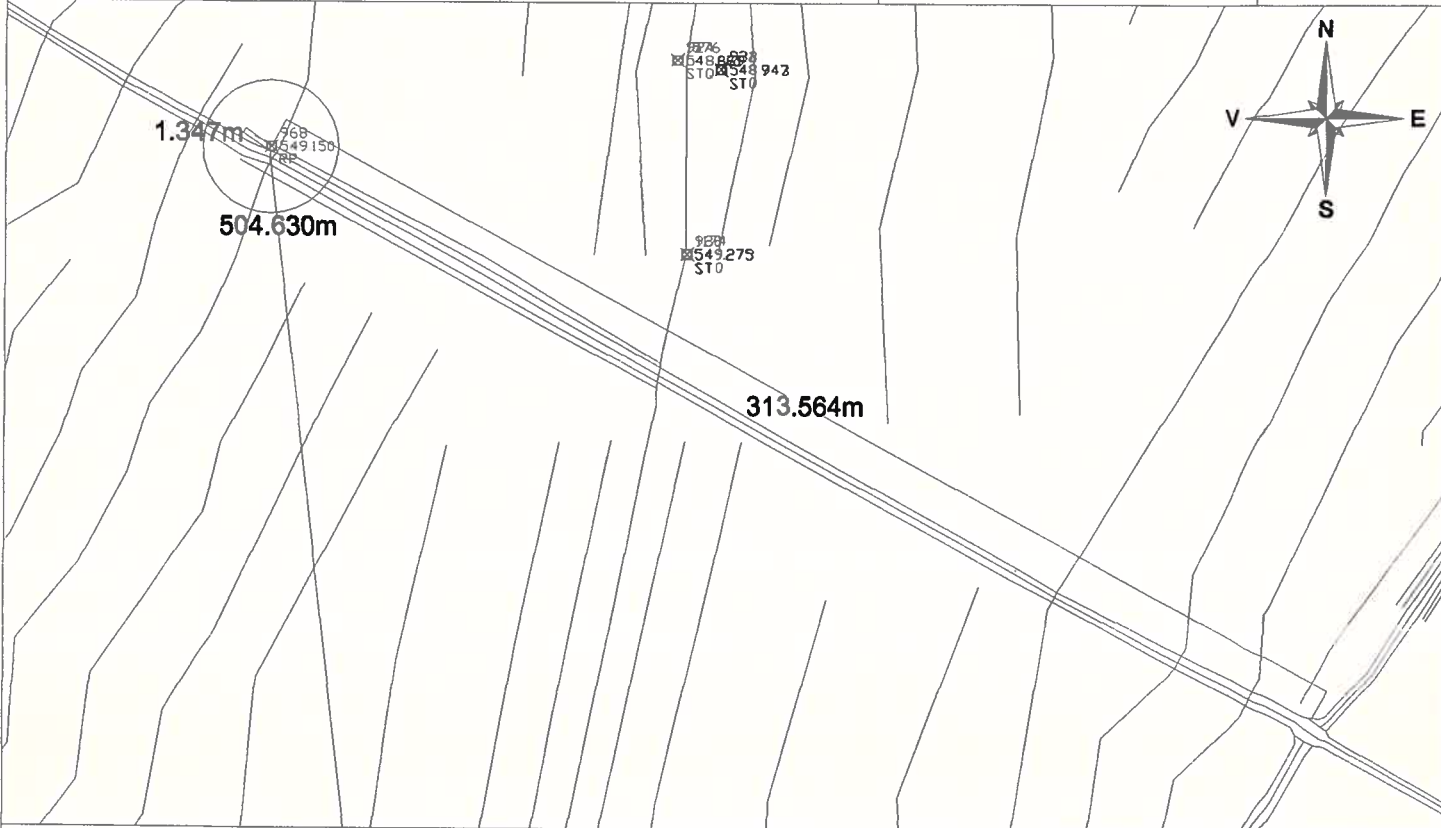
materializare = pichet metalic

Punctul se afla la 2.378m fata de calea ferata, la 5.142m fata de indicatorul de prevestire trecere la nivel de cale ferata si la 19.275m fata de marginea drumului national.



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
968	537123.961	465557.697	549.150	RP



<b>Descrierea punctului :</b>	<b>materializare = pichet metalic</b>
	Punctul se afla la 1.347m fata de marginea drumului de pamant, la 313.564m fata de intersectia cu drumul de pamant si la 504.630m fata de stalpul de inalta tensiune.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
1916	537440.451	466549.537	543.216	RP



Descrierea punctului :	materializare = cui de beton
	Punctul se afla pe marginea canalului, la 2.745m fata de marginea drumului de pamant si la 138.531m fata de linia de inalta tensiune.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

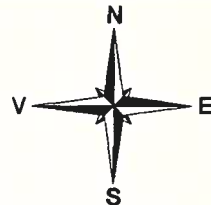
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
1588	536563.332	467044.588	543.122	BOTP



394.606m



Descrierea punctului :

materializare = borna feno

Punctul se afla la 0.58m fata de marginea rigolei de beton, la 1.73m fata de marginea drumului si la 394.606m fata de punctul 2279.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

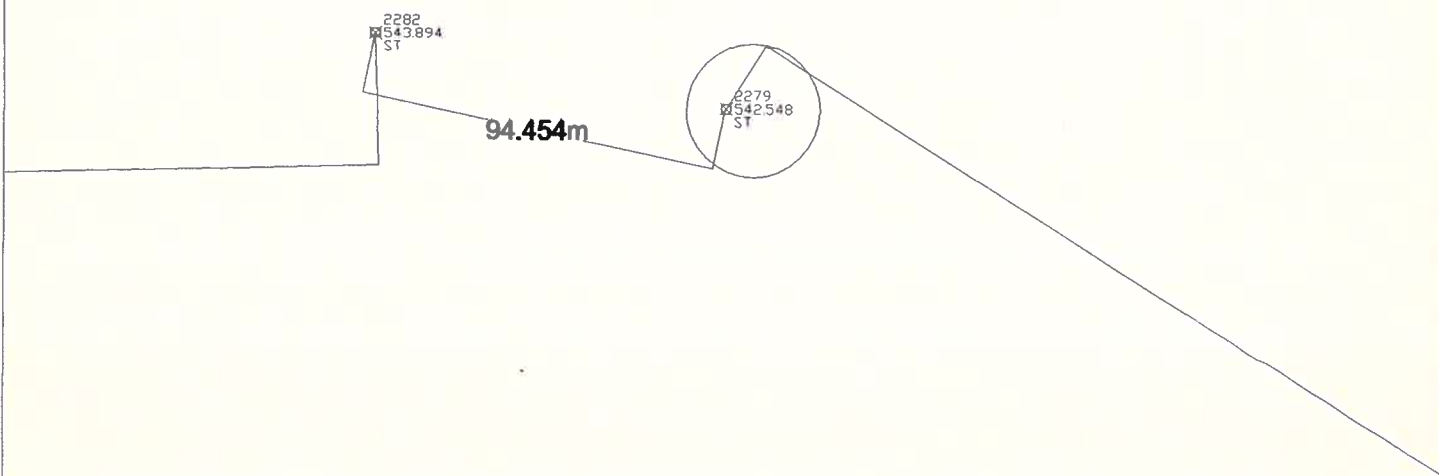
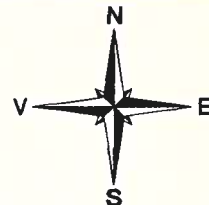
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
2279	536230.706	467256.894	542.548	ST



Descrierea punctului :	materializare = cui de beton
	Punctul se afla la capatul podetului, la 0.744m fata de marginea drumului si la 94.454m fata de punctul 2282.





# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

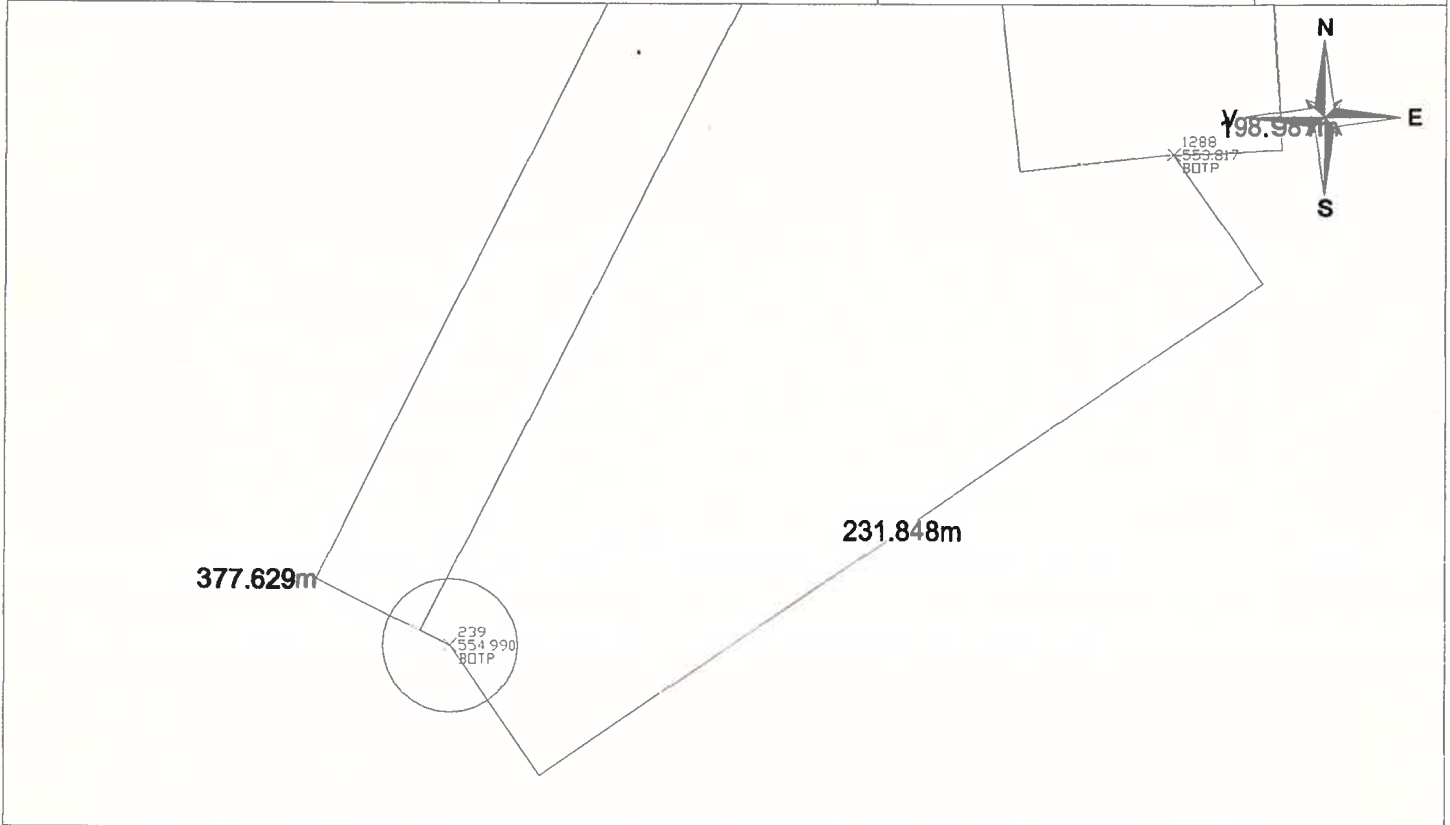
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
239	537510.013	463940.928	554.990	BOTP

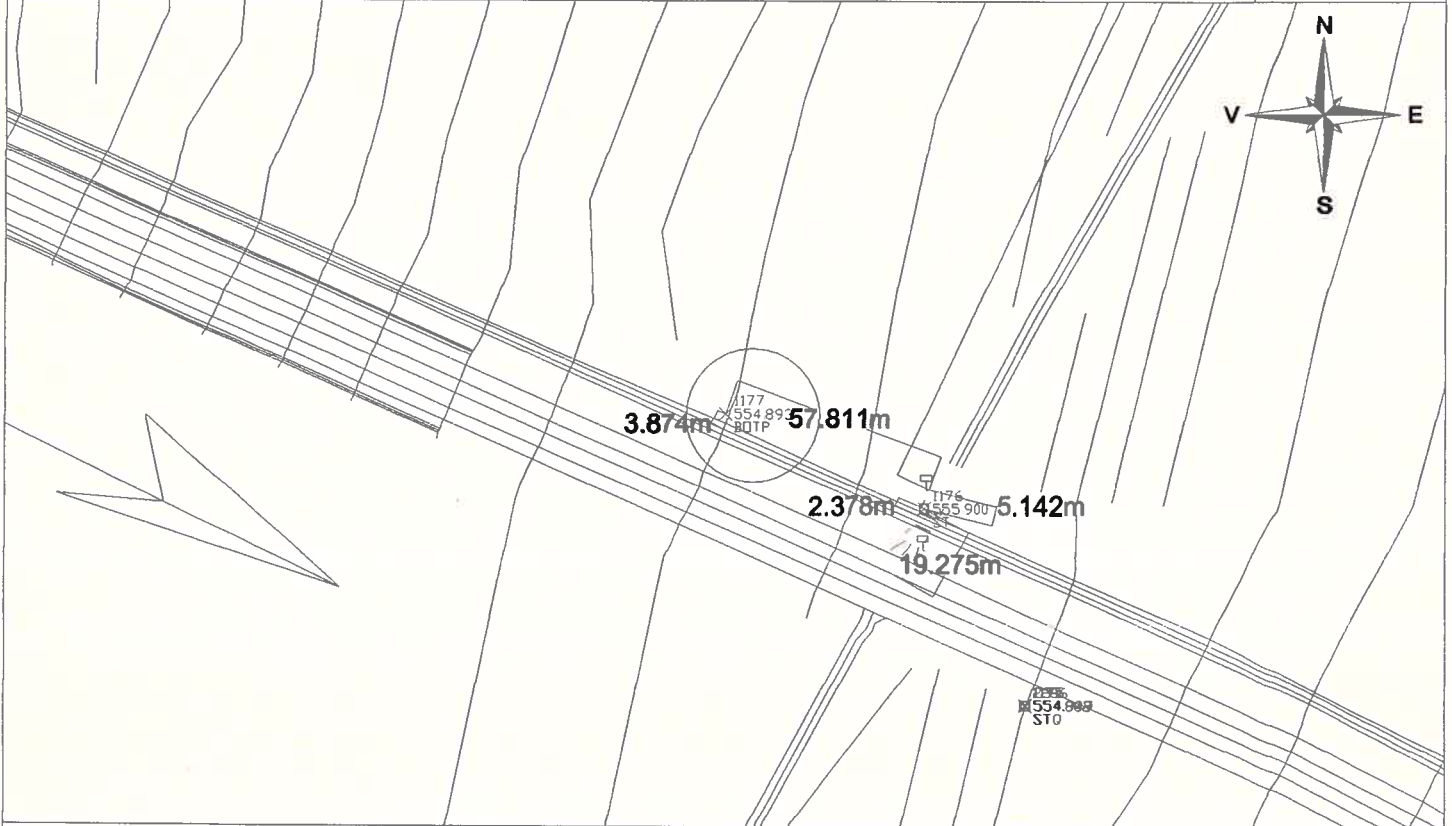


Descrierea punctului :	materializare = borna feno
	Punctul se afla la 377.629m fata de marginea drumului national si la 231.848m fata de punctul 1288



**Schite de reperaj puncte statii**  
**AUTOSTRADA TRANSILVANIA**  
**SECTIUNEA 1A**  
**- CRISTIAN - FAGARAS -**  
**KM 0+000 - KM 24+000**  
 Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
1177	536949.703	464724.492	554.893	BOTP



Descrierea punctului :	materializare =borna feno
	Punctul se afla la 3.874m fata de calea ferata si la 67.811 m fata de indicatorul rutier de prevestire trecere la nivel de cale ferata.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

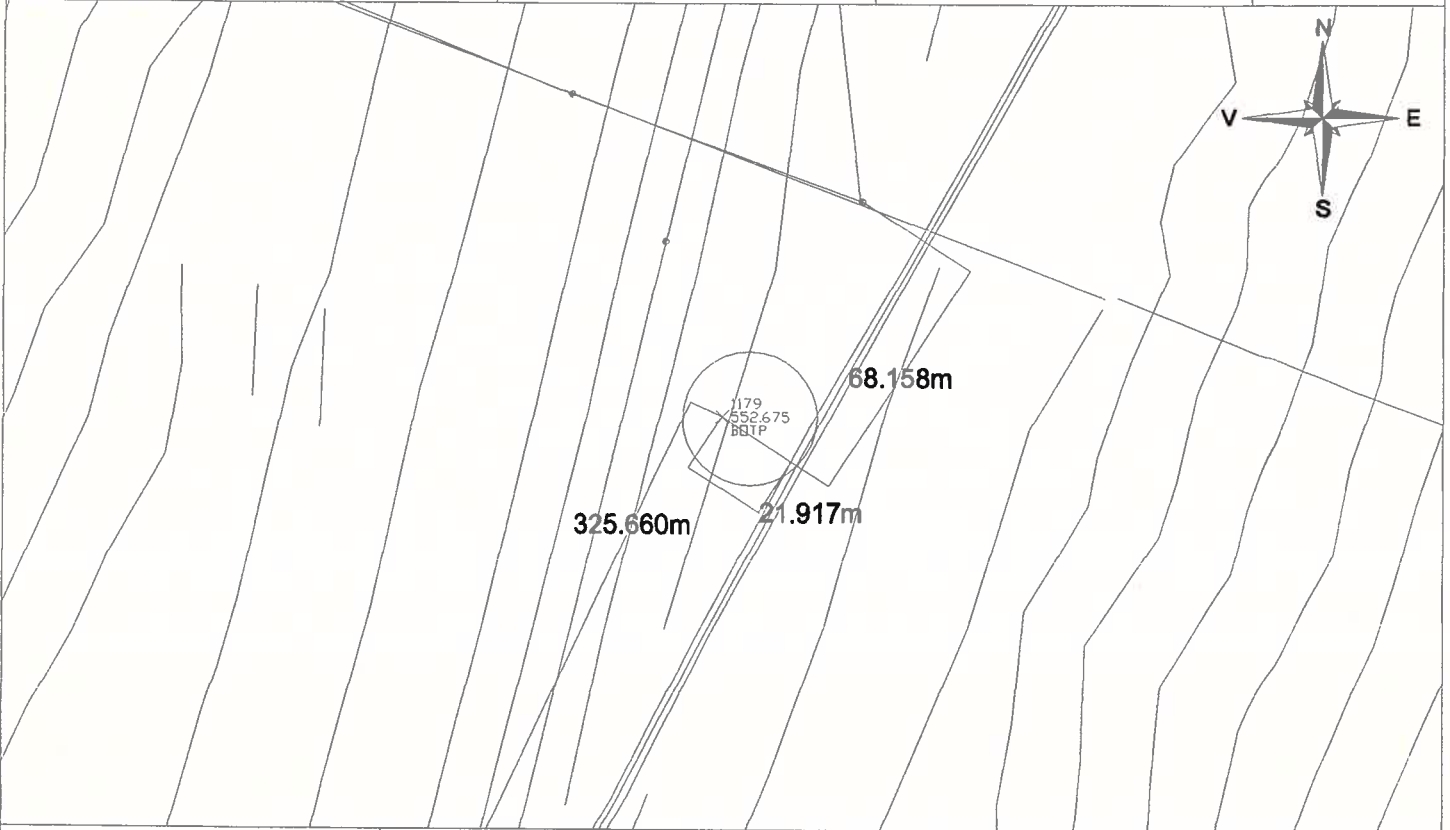
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
1179	537142.956	464998.867	552.675	BOTP



Descrierea punctului : materializare = borna feno

Punctul se afla la 21.917m fata de marginea drumului de pamant, la 68.158m fata de stalpul de inalta tensiune si la 325.660m fata de indicatorul rutier de prevestire trecere la nivel de cale ferata.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

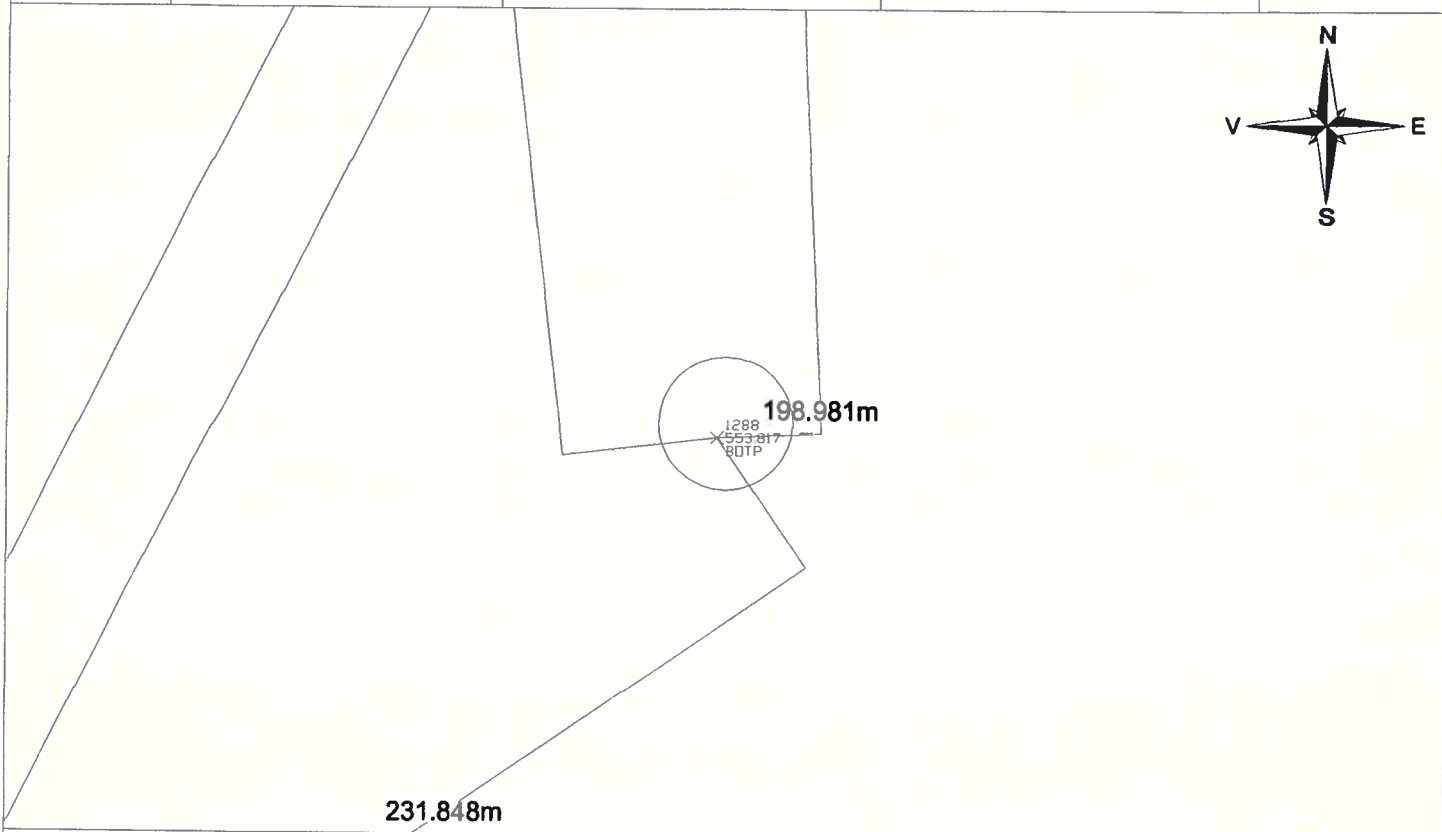
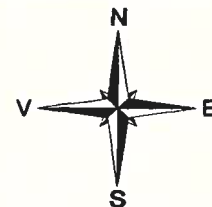
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

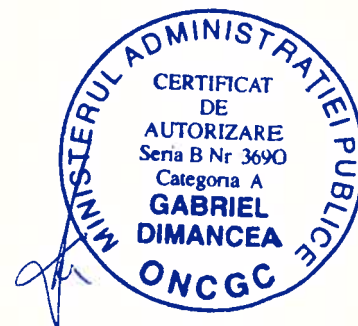
KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
1288	537701.148	464072.156	553.817	BOTP



Descrierea punctului :	materializare = borna feno Punctul se afla la 231.848m fata de punctul 238 si la 198.981m fata de marginea drumul national.
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# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

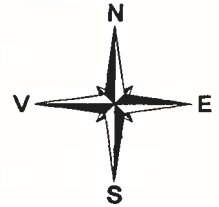
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
1588	536563.332	467044.588	543.122	BOTP



394.606m



Descrierea punctului :

materializare =borna feno

Punctul se afla la 1.16m fata de marginea drumului de pamant si la 394.606m fata de punctul 2279.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

SECTIUNEA 1A

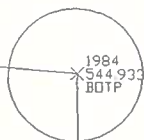
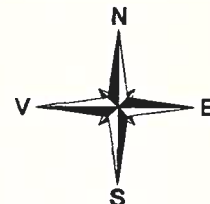
- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
1984	535731.445	467265.992	544.933	BOTP

147.646m



Descrierea punctului :

materializare = borna feno

Punctul se afla la 2.132m de calea ferata, la 200.875 m in partea dreapta de trecerea la nivel de cale ferata, la 150.032m fata de stalpul de beton, la 147.646m fata de punctul 1988 si la 2.13 m fata de gard.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

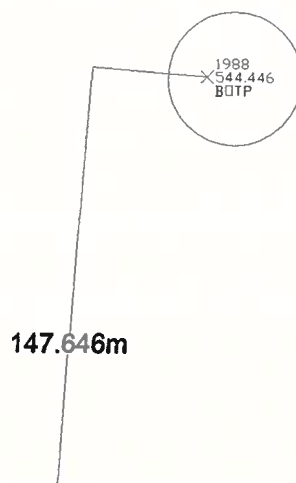
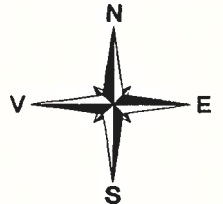
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
1988	535743.049	467413.181	544.446	BOTP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 3.545m fata de calea ferata, la 150.877m fata de trecerea la nivel de cale ferata in stanga acesteia, la 147.646 fata de punctul 1984 si la 50.143 m fata de colt gard proprietate.



# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

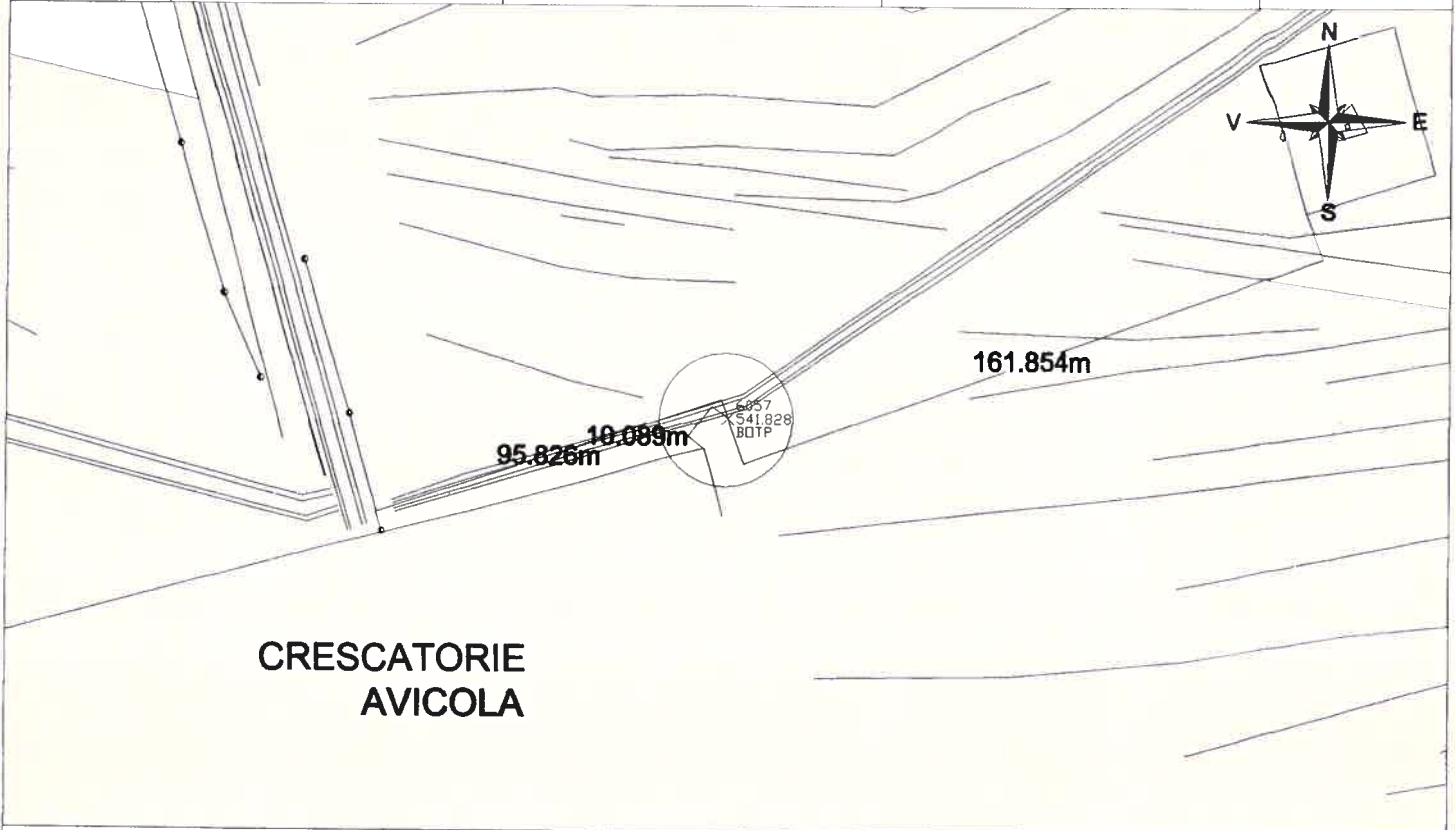
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
6057	535304.348	470932.009	541.828	BOTP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 10.089m fata de coltul gardului crescatoriei avicole, la 95.826m fata de stalpul de beton si la 161.854m fata de coltul gardului de plasa.





# Schite de reperaj puncte statii

AUTOSTRADA TRANSILVANIA

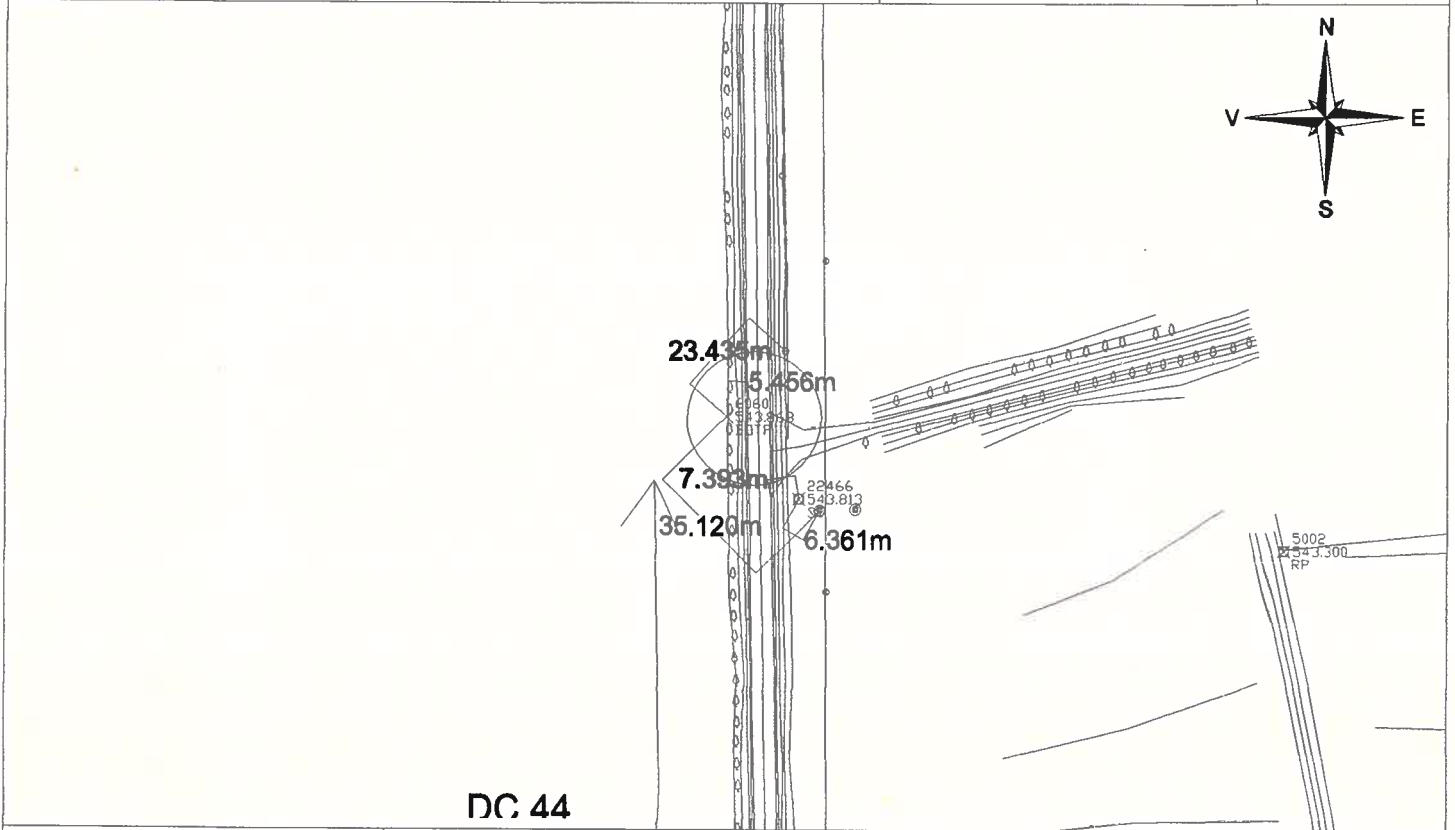
SECTIUNEA 1A

- CRISTIAN - FAGARAS -

KM 0+000 - KM 24+000

Proiectie Stereo 1970

Nr.	Est	Nord	H	Cod
6060	534733.038	471250.567	543.868	BOTP



Descrierea punctului :	materializare = borna feno
	Punctul se afla la 5.456m fata de marginea drumului, la 23.435m fata de stalpul de beton si la 36.120m fata de camin canalizare, pe partea stanga a drumului in sensul crescator al kilometrajului.

