

TECHNICAL EXHIBIT  
APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT  
DIGITAL LPTV STATION WVQS-LP  
FACILITY ID 32144  
ISABEL SEGUNDA, PUERTO RICO  
CH 50 15 KW (MAX-DA)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application to modify the authorized digital construction permit (BDFCDTL-20080428ACH) of LPTV station WVQS-LP on channel 50 at Isabel Segunda, Puerto Rico (Facility ID: 32144).

Specifically, this application proposes to modify the WVQS-LP authorized operation by relocating to an alternate transmitter site. It is proposed to operate on digital channel 50 employing a PSI PSILP8BQM-50 directional antenna having a main lobe orientation of 50 degrees true. The maximum directional effective radiated power will be 15 kW and the antenna radiation center above mean sea level will be 1007.8 meters.

Figure 1 depicts the licensed 74 dBu contour, the authorized digital 51 dBu contour, and herein proposed digital 51 dBu contour for WVQS-LP. As indicated, the proposed 51 dBu contour completely encompasses the licensed 74 dBu contour.

Antenna Structure Registration

Results of the FCC's TOWAIR Program indicate that the existing 18.7 meter (61.5 foot) structure does not require registration. Figure 2 shows the results of the FCC's TOWAIR Program.

Response to Paragraph 13 (Interference)

A study has been conducted to assure that the proposal will not create prohibited interference with other licensed, authorized or pending analog or digital TV, LPTV/translator and Class A TV stations. Using the procedures outlined in the FCC's OET-69 Bulletin, a 1 kilometer cell size resolution, a distance terrain increment of 0.1 kilometer and 1990 U.S. Census, the proposal complies with the current FCC policy (i.e., less than 0.5% new interference caused to other pertinent assignments). In

addition, the proposed facility complies with all the following applicable rule Sections: Sections 73.6016, 73.6017, 73.6018, 73.6019, 73.6020, 73.6027, and 74.794(b).

#### Environmental Considerations

The WVQS-LP facilities were evaluated in terms of potential radiofrequency radiation exposure at 2 meters above ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation". This Bulletin provides assistance in determining whether FCC-regulated transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency (RF) electromagnetic fields adopted by the Commission in 1996.<sup>1</sup>

The calculated power density at 2 meters above ground level at the base of the tower was calculated using the appropriate equation contained in the Bulletin. As shown on Figure 3 (antenna vertical relative pattern), the maximum vertical relative field for depression angles towards the tower base ( $-60^{\circ}$  to  $-90^{\circ}$ ) is 0.09. Therefore, using a vertical relative field value of 0.09, a maximum ERP of 15 kilowatts, and an antenna center of radiation height above ground level of 16.8 meters, the calculated power density at two meters above ground level at the base of the tower is 0.0185 milliwatt per square centimeter ( $\text{mW}/\text{cm}^2$ ), or 4.03 percent of the Commission's recommended limit applicable to general population/uncontrolled exposure areas ( $0.459 \text{ mW}/\text{cm}^2$  for TV channel 50). Therefore, the facility complies with the FCC's RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, an agreement will be in effect to control access to the site. In the event that workers or other authorized personnel enter the restricted area appropriate measures shall be taken to limit RF energy exposure. Such measures include limiting the exposure time, wearing protective clothing, reducing power to an acceptable level or termination of

---

<sup>1</sup> See *Report and Order* in ET Docket 93-62, FCC 96-326, adopted August 1, 1996, 11 FCC Rcd 15123 (1997). See also *First Memorandum Opinion and Order*, ET Docket 93-62, FCC 96-487, adopted December 23, 1996, 11 FCC Rcd 17512 (1997), and *Second Memorandum Opinion and Order and Notice of Proposed Rulemaking*, ET Docket 93-62, FCC 97-303, adopted August 25, 1997.

transmitter output power all together until workers leave the restricted area.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been addressed by the tower owner.

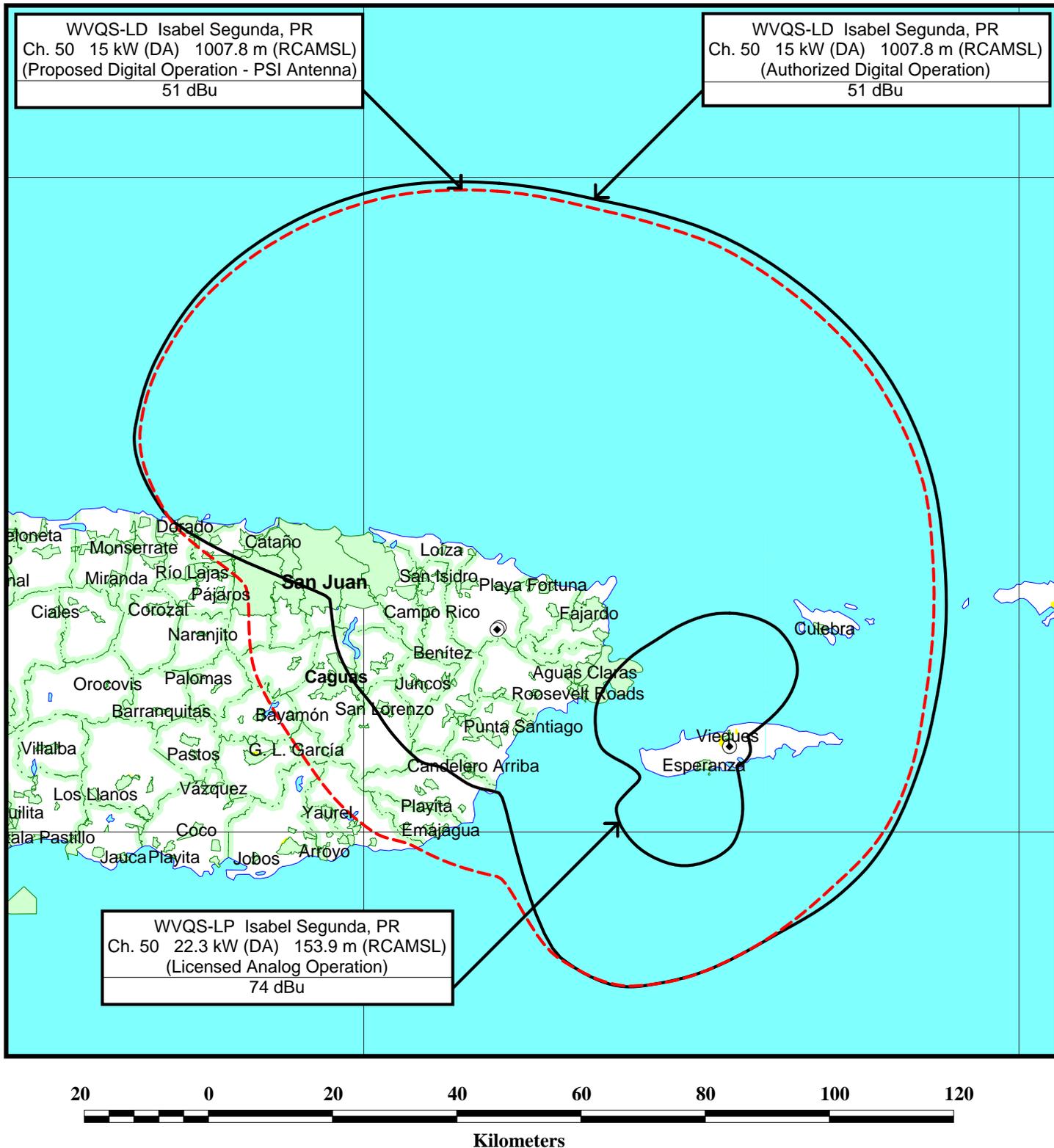
If there are questions concerning the technical portion of this application, please contact the office of the undersigned.



Jerome J. Manarchuck

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Avenue  
Sarasota, Florida 34237  
(941)329-6000  
JERRY@DLR.COM

April 8, 2009



## FCC PREDICTED COVERAGE CONTOURS

LPTV STATION WVQS-LP

ISABEL SEGUNDA, PUERTO RICO

CH 50 15 KW (DA) 1007.8 M (RCAMSL)

du Treil, Lundin & Rackley, Inc. Sarasota, Florida 34237

## TOWAIR Determination Results

### \*\*\* NOTICE \*\*\*

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

#### DETERMINATION Results

**Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.**

#### Your Specifications

##### NAD83 Coordinates

Latitude	18-18-25.8 north
Longitude	065-47-44.6 west

##### Measurements (Meters)

Overall Structure Height (AGL)	18.7
Support Structure Height (AGL)	17.7
Site Elevation (AMSL)	991

##### Structure Type

TOWER - Free standing or Guyed Structure used for Communications Purposes

#### [Tower Construction Notifications](#)

Notify Tribes and Historic Preservation Officers of your plans to build a tower.

CLOSE WINDOW

Figure 3 - Sheet 1 of 2

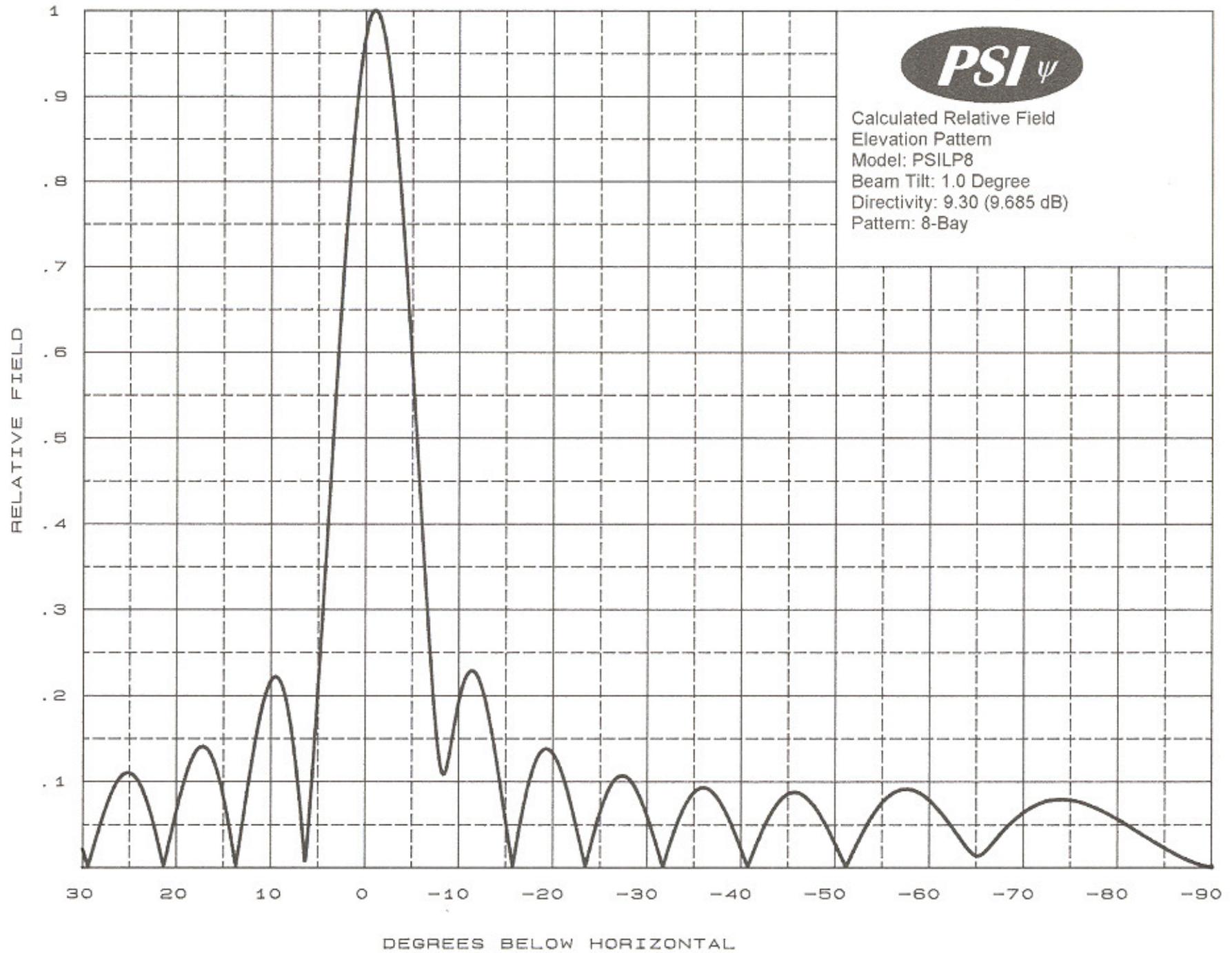


Figure 3 - Sheet 2 of 2

<b>Propagation Systems Inc.</b> Relative Field Tabulation Standard 8-Bay Elevation Pattern Antenna Model: PSILP8 Beam Tilt: -1.0 degree								
Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90	0.001	-60.0	-50	0.027	-31.4	-10	0.194	-14.3
-89	0.002	-54.1	-49	0.049	-26.3	-9	0.133	-17.5
-88	0.006	-45.0	-48	0.067	-23.5	-8	0.118	-18.6
-87	0.010	-39.6	-47	0.080	-21.9	-7	0.232	-12.7
-86	0.016	-36.0	-46	0.087	-21.3	-6	0.400	-8.0
-85	0.022	-33.2	-45	0.085	-21.4	-5	0.578	-4.8
-84	0.028	-30.9	-44	0.076	-22.4	-4	0.744	-2.6
-83	0.035	-29.0	-43	0.059	-24.5	-3	0.879	-1.1
-82	0.042	-27.5	-42	0.036	-28.9	-2	0.968	-0.3
-81	0.049	-26.2	-41	0.009	-41.3	-1	1.000	0.0
-80	0.056	-25.1	-40	0.020	-33.9	0	0.972	-0.2
-79	0.062	-24.2	-39	0.048	-26.4	1	0.886	-1.0
-78	0.067	-23.4	-38	0.071	-23.0	2	0.753	-2.5
-77	0.072	-22.8	-37	0.087	-21.3	3	0.584	-4.7
-76	0.076	-22.4	-36	0.092	-20.7	4	0.400	-8.0
-75	0.078	-22.2	-35	0.087	-21.2	5	0.216	-13.3
-74	0.079	-22.1	-34	0.071	-23.0	6	0.052	-25.7
-73	0.078	-22.2	-33	0.045	-26.9	7	0.080	-21.9
-72	0.075	-22.5	-32	0.012	-38.3	8	0.170	-15.4
-71	0.070	-23.1	-31	0.024	-32.5	9	0.215	-13.3
-70	0.063	-24.0	-30	0.058	-24.7	10	0.217	-13.3
-69	0.054	-25.3	-29	0.086	-21.3	11	0.183	-14.7
-68	0.044	-27.2	-28	0.103	-19.8	12	0.124	-18.1
-67	0.031	-30.1	-27	0.106	-19.5	13	0.053	-25.6
-66	0.019	-34.5	-26	0.093	-20.6	14	0.019	-34.5
-65	0.013	-37.8	-25	0.065	-23.7	15	0.080	-22.0
-64	0.022	-33.0	-24	0.026	-31.7	16	0.121	-18.3
-63	0.037	-28.6	-23	0.020	-33.8	17	0.139	-17.1
-62	0.052	-25.7	-22	0.067	-23.5	18	0.134	-17.5
-61	0.066	-23.6	-21	0.106	-19.5	19	0.108	-19.4
-60	0.077	-22.2	-20	0.132	-17.6	20	0.067	-23.5
-59	0.086	-21.3	-19	0.137	-17.3	21	0.018	-34.7
-58	0.090	-20.9	-18	0.119	-18.5	22	0.029	-30.6
-57	0.090	-20.9	-17	0.079	-22.1	23	0.070	-23.1
-56	0.085	-21.4	-16	0.020	-34.1	24	0.097	-20.2
-55	0.075	-22.5	-15	0.051	-25.9	25	0.109	-19.2
-54	0.061	-24.3	-14	0.122	-18.3	26	0.104	-19.6
-53	0.042	-27.5	-13	0.183	-14.8	27	0.085	-21.4
-52	0.020	-33.8	-12	0.221	-13.1	28	0.054	-25.3
-51	0.003	-49.9	-11	0.226	-12.9	29	0.017	-35.3
						30	0.263	-11.6