

G-2

TEAM MEETINGS

EMAIL RE: SEPTEMBER 6 MEETING

Gaines, Kuger A MVM

From: Gordon, David MVS
Sent: Tuesday, September 04, 2001 11:45 AM
To: Gaines, Roger A MVM; Davinroy, Robert D MVS; Strauser, Claude N MVS; Max, Douglas W MVM; Jones, Dewey L MVM; Occhipinti, Robert A MVD
Subject: Sept 6 Meeting

How about 8 am on Thursday, Sept 6? Let me know if this works for everybody. Dave
Andy,

After reviewing what you have decided to include in your comparison document we have decided that we would rather have a conference call with you on Sept 6. I feel that my voice is not being heard about the concerns I have had. This is such an important subject, we need to do it right. My concerns addressed in the e-mail to you on July 26 have been completely ignored (see it attached below). I am becoming very frustrated with the run around and discussions that go no where.

Rob and I will be on TDY next week in New Mexico and probably cannot be reached out in the desert. I will not be attending a meeting until I feel our voices are being heard. I feel I have made continued efforts to make our point with numerous phone calls and emails. We have continuously compromised in this research effort without receiving the same from you. We are requesting that the conference call consist of you, Dewey, Claude, myself and Rob.

Dave

RE: Comparison of
REAL data up...

Gaines, Koger A MVM

From: Gaines, Roger A MVM
Sent: Friday, August 24, 2001 6:32 AM
To: Gordon, David MVS
Cc: Davinroy, Robert D MVS; Strauser, Claude N MVS; Max, Douglas W MVM; Jones, Dewey L MVM; Occhipinti, Robert A MVD
Subject: RE: Sept 6 Meeting

I forgot the attachment:



Comparison_Analysis_
TEXT_NO-TA...

-----Original Message-----
From: Gaines, Roger A MVM
Sent: Friday, August 24, 2001 6:27 AM
To: Gordon, David MVS
Cc: Davinroy, Robert D MVS; Strauser, Claude N MVS; Max, Douglas W MVM; Jones, Dewey L MVM; Occhipinti, Robert A MVD
Subject: RE: Sept 6 Meeting

Dave,

Here is some additional follow-up on last night's email. There are four points that I believe need to be clarified.

1. For those not privy to the outline I sent you regarding the comparisons, the attached file contains part (less the tabulated numeric values and 250 or so pages of charts) of what I sent Dave on the comparison report. Pertaining to the presentation of data greater than at 0.0 LWRP, you will note that section 2 (on page 2 of the main document outline) contains sections on just this issue. These sections are largely (e.g. entirely) unwritten at present. This was one area to be discussed at the Sept 6 meeting -- just how is the best way to approach this matter.

2. The errors mentioned in previous email:

< +30 results in a 30+% error
< +20 results in a 32+% error
< 0 results in a 24+% error
< -10 results in a 19+% error.

represent an error in difference values, not error in calculation of the cross-sectional area. I have no basis for estimating the actual error in calculated area resulting from Dave's example.

3. The team evaluation effort must not be viewed in terms of a review capacity. In other words, I do not wish to write the majority of the report(s) then simply subject it(them) to review. A much better approach is to include the TEAM's joint effort throughout the writing process. However, time is running out for completion of this important effort and it may become necessary for me to compile the entire report. If that occurs, much of the team concept will have been wasted.

4. Rob is more than welcome to participate in the Sept. 6 meeting in Memphis. I had intended to make this meeting for the three principle team members (but though Rob was going to be here anyway for the Westover model effort). If this meeting needs to involve all team members and the technical advisors, that can be accommodated. For the present, I suggest that the meeting proceed as originally scheduled -- Meet in Memphis on Sept 6 at 0730.

Respectfully,
Andy Gaines

Gaines, Roger A MVM

From: Gaines, Roger A MVM
Sent: Thursday, August 23, 2001 8:30 PM
To: Gordon, David MVS
Cc: Davinroy, Robert D MVS; Strauser, Claude N MVS; Max, Douglas W MVM; Jones, Dewey L MVM; Occhipinti, Robert A MVD
Subject: RE: Sept 6 Meeting

Dave,

You can exercise whatever method you wish regarding the meeting. We do need to set a time for subject call so I can include MVD and those here at MVM.

Your previous email (as attached) has not gone ignored. I simply have been involved in trying to bring all this together so that we can have something on paper. I also have not wished to become side tracked with an email or phone "discussions" which have gotten us no where on this issue thus far. Part of the purpose of the meeting was to work through this issue along with some of the others yet remaining to surface. Is this the way it will be with other issues we have to resolve?

In regards to your attached table, please note that though the percentages you show appear small (due to the truncation) these translate into large errors.

The first line < +30 results in a 30+% error
< +20 results in a 32+% error
< 0 results in a 24+% error
< -10 results in a 19+% error.

For sections with greater differences between the cross-sections (more than the 2ft. you indicate), I think the margin of error will increase significantly. The sensitivity of the parameters to cross-section truncation AND the elevation at which the analysis is performed is most significant. As demonstrated by the Kate-Aubrey data, the sensitivity (in differences in area, depth, width, etc) is much higher at lower elevations. Unfortunately, you discount the fact that I have more to base my conclusions on than a single model. While the chart I sent you was of model-prototype difference for a single model, my past experience with rivers supports the fact that area in the lowest part of a channel has a higher rate of change (not only in area but also in width, wetted perimeter, hydraulic depth as well) for every foot increase in elevation (going from low elevation to higher elevation) than when you get anywhere near bank full (or even +20). This is just common sense. There is no reason to doubt that model differences would behave any differently. Further, to assume that any model is more accurate than variations in the source data (prototype) does not fully consider the facts. Separating the two, model to prototype difference/agreement and prototype variation, does not provide the complete picture. Whether the differences we have to date are too high (or not), the fact remains that we need to have an understanding of what that (or any) tool is capable of. I agree that perception is of high importance -- simply increasing the elevation at which comparisons are made (particularly where no data exists) does little toward gaining an understanding of the tool's capabilities. As the data show, there is not a large difference in the comparison numbers for the WES and micromodels. It there were a large difference, I might understand your heightened sensitivity on this. Afterall, the idea here is not to make any model look bad -- it is to understand what the model's capabilities (and yes limitations) are.

We must work out how to bring this together. I seriously doubt a phone conversation or email discourse will do much to allow us to resolve this. I place a high degree of importance on this issue. My utmost goal is to take a long honest look at the tool we have and attempt to move forward with efforts to improve it. Though I strongly support the micromodels and their use, I can not become biased toward any particular outcome at this point. I have been and continue to work diligently to bring this evaluation to a successful closure, one based on sound principles. If this is such a paramount issue, would you be willing to work on it next week in lieu of traveling to the desert? I have other highwater survey data that could shed some light on the issue; I simply am not two people (to accomplish more than I am at the moment).

Andy

-----Original Message-----

-----Original Message-----
From: Gordon, David MVS
Sent: Thursday, August 23, 2001 7:40 PM
To: Gaines, Roger A MVM

Cc:
Subject.

Davinroy, Robert D MVS; Strauser, Claude N MVS; Max, Douglas W MVM; Jo
Sept 6 Meeting

wey L MVM

Andy,

After reviewing what you have decided to include in your comparison document we have decided that we would rather have a conference call with you on Sept 6. I feel that my voice is not being heard about the concerns I have had. This is such an important subject, we need to do it right. My concerns addressed in the e-mail to you on July 26 have been completely ignored (see it attached below). I am becoming very frustrated with the run around and discussions that go no where.

Rob and I will be on TDY next week in New Mexico and probably cannot be reached out in the desert. I will not be attending a meeting until I feel our voices are being heard. I feel I have made continued efforts to make our point with numerous phone calls and emails. We have continuously compromised in this research effort without receiving the same from you. We are requesting that the conference call consist of you, Dewey, Claude, myself and Rob.

Dave

<< Message: RE: Comparison of REAL data up to +20 LWRP >>

Gaines, Kugler A MVM

From: Gaines, Roger A MVM
Sent: Thursday, August 23, 2001 7:46 PM
To: Gordon, David MVS
Subject: RE: Sept 6 Meeting

I also request that MVD (the current POC is Bob Occhipinti) be included in this conference call.

Andy

-----Original Message-----

From: Gordon, David MVS
Sent: Thursday, August 23, 2001 7:40 PM
To: Gaines, Roger A MVM
Cc: Davinroy, Robert D MVS; Strauser, Claude N MVS; Max, Douglas W MVM; Jones, Dewey L MVM
Subject: Sept 6 Meeting

Andy,

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Dave

<< Message: RE: Comparison of REAL data up to +20 LWRP >>

Gaines, Kuger A MVM

From: Gaines, Roger A MVM
Sent: Tuesday, August 21, 2001 9:51 AM
To: Gordon, David MVS
Cc: Maynard, Stephen T ERDC-CHL-MS
Subject: RE: Meeting in Memphis on Sept. 6 at 0700

Dave,

I have not done much on the text; there is just a skeleton outline. Most of what I have so far is in the form of charts (redone/reformatted versions of the WES and MVS data). I had hoped to complete some summary tables to include by now, but they are still in progress. Hope to have that later today. You will not get a complete document (or anywhere near that) before our meeting. I hope that we can establish just what needs to be included in the document I've started plus what we will include in the remaining report when we get together. We each need to prepare an outline of what content we envision for the report before we get together on the 6th.

Andy

-----Original Message-----
From: Gordon, David MVS
Sent: Tuesday, August 21, 2001 9:23 AM
To: Gaines, Roger A MVM
Subject: RE: Meeting in Memphis on Sept. 6 at 0700

Andy, can you get the document to me either today or tomorrow? I will be on TDY all next week so I wanted to get it early this week.

Thanks, Dave

-----Original Message-----
From: Gaines, Roger A MVM
Sent: Tuesday, August 14, 2001 12:17 PM
To: Gordon, David MVS; Maynard, Stephen T ERDC-CHL-MS
Cc: Occhipinti, Robert A MVD; Max, Douglas W MVM
Subject: Meeting in Memphis on Sept. 6 at 0700
Importance: High

It seems that the 6th fits everyone's schedule the best, so let's plan to meet in Memphis first thing that morning. Hopefully, we will conclude with our discussions and arrive at a plan of action for completing the report by lunch.

I am continuing work to get a draft of something to you by later this week or early next week. I have a consolidated version of the comparison charts together (though virtually no text yet) and would like to provide this to you after a little more work. The Word document is +100 Mb, so I'll need you to tell me where to upload it (MVS - I'll put it on your ftp site and let you know; ERDC - I need to know if you want me to put it on the ftp site Charlie and I have been using or an alternate location). I think email might choke on such a large file.

Bob Occhipinti, MVD, will be here on Sept. 6th as an observer -- so that he can report on where we stand. Otherwise, I guess it will be just the three of us. More as it comes together.

Andy Gaines
US Army Corps of Engineers, Memphis
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Memphis, TN 38103

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901-544-0920 FAX
roger.a.gaines@usace.army.mil

Gaines, Roger A MVM

From: Gordon, David MVS
Sent: Thursday, July 26, 2001 11:23 AM
To: Gaines, Roger A MVM; Maynard, Stephen T ERDC-CHL-MS
Cc: Max, Douglas W MVM; Davinroy, Robert D MVS; Gordon, David MVS
Subject: RE: Comparison of REAL data up to +20 LWRP

Andy,

I continue to strongly disagree with your insistence that we are "doctoring" the data by using vertical extensions. I also do not agree with your assessment that analyzing a single model study (Kate Aubrey) at +20 gives a valid indication of difference in area. Although your calculations match ours it cannot be considered "stand-alone" reliable data because it is just one single model. Absolutely no conclusions can be made by using a single point. The only reason you may feel it is conclusive is because it is backed up by our data. But at the same time you state that our data cannot be used because of the truncated sections and our so called "doctoring" of the data. Without our data, this Kate Aubrey explanation remains inconclusive and therefore irrelevant.

In fact, I feel that our data at a +20 is an extremely good indicator of the true difference in cross sectional area. This is because of how the differences in area exponentially increase as the data is compared at lower and lower elevations. Your graphs are very good at showing this. This exponential function also applies to the difference in the percent differences between a truncated section and the entire section. I did some quick calculations with a simplistic cross section and found this to be true. One of the sections I played with was 3000 feet wide, and had maximum elevations of +22 & +24 and minimum elevations of -16 & -18. The sections were identically shaped and had a minor vertical difference in elevation of 2 feet throughout. Areas were calculated at elevations +30, +20, 0, and -10 for both the entire section and a truncated section in the thawweg 1000 feet wide. The following chart shows the results:

	Difference in Cross Sectional Area		Difference of Differences
	Truncated - 1000 ft	Entire Section - 3000 ft	
Below +30	4.3%	6.2%	1.9%
Below +20	5.5%	8.2%	2.7%
Below 0	12.5%	16.5%	4.0%
Below -10	33.3%	41.2%	7.9%

The chart shows that the comparison of data at the higher elevations are very comparable between the entire section and the truncated one. In fact, it is much more indicative of the actual difference in area. At lower elevations elevations these differences become exponentially higher. Therefore, by comparing cross sectional area at a higher elevation in a truncated section will give a much better indication of the true difference. So if a truncated section must be used, cross sectional area should be calculated and compared at the higher elevations. This gives a very good indication of the true difference in area.

Note: The percent difference values shown at elevations 0 and -10 are ridiculously high for a cross section that is only 2 feet vertically different. Why would we want to present this kind of inflated data to the public? We would be fools to show the public that all the models the Corps has relied upon (micro and macro) have this kind of difference in cross sectional area. This could ruin the Corps credibility in sediment transport modeling.

Dave

-----Original Message-----

From: Gaines, Roger A MVM
Sent: Tuesday, July 24, 2001 7:00 AM
To: Gordon, David MVS; Maynard, Stephen T ERDC-CHL-MS
Cc: Max, Douglas W MVM
Subject: Comparison of REAL data up to +20 LWRP
Importance: High

Subject: Microsoft Excel Chart >>

...just completed putting together elevation versus area data for the Kate-Auburn, predictive analysis in order to address the concerns of the percent differences appearing like the models (both MM and Other) are too high. This was the only survey where we had actual data up to or above +20 LWRP. The model didn't have elevations up to +20 in many locations, but the surveys extended fully to the insert wall. Therefore, a vertical extension of the area was consistent with the bankfull condition (where there should be little error introduced by extending up the bank since the MM uses a vertical wall anyway).

With the exception of one anomaly, R-28, the data seem to converge on a 0-20% difference in area difference -- that would make the average about 10% (for these 15 ranges). I believe that this demonstrates what we need to show regarding the model's accuracy beyond the 0 LWRP level. I continue to have problems justifying the vertical extension of the area just to "doctor" the perception of the findings. I realize that some of the MVS surveys necessitated truncating the analysis with such an extension for both the 0.0 and -10.0 LWRP calculations. I do not know exactly how to deal with this since it seems there may be larger differences between the real values (if we had all the data) and when the vertical extension is required. I am still working on that, but don't have the data on which surfaces were impacted by the limited surveys. I do not know of any other alternative method for analyzing the data at this point.

As compared to Dave's numbers for Area at EL 20 (shown below), the numbers I've put together are fully supported by the data (and thus more defensible). Besides, the net outcome is that the percentages derived from the KA data set are actually lower than what Dave shows -- though I've only been able to compare data for area, it should be plausible to rerun the two KA surveys with Dave's modified version of the MBANAL.EXE program to obtain widths and hydraulic depth for comparing at the +20 level. My numbers are also based on only 15 ranges through the principle area of model focus (and where I thought the most difference would occur). It seems that once you exceed el. +10 the data seem to converge within the 0-20% range, so I don't think my premise that the "most difference ranges" would impact the outcome should additional ranges be analyzed. In fact, if additional ranges were analyzed, I'm now convinced that they would (with rare exception) fall within this 0-20% range at +20.

I propose that we use only the KA data in addressing this issue of perception since it is based on actual data. Please give me your thoughts on this important issue.

<< OLE Object: Microsoft Excel Worksheet >>

Andy Gaines

US Army Corps of Engineers, Memphis

167 North Main St.

Memphis, TN 38103

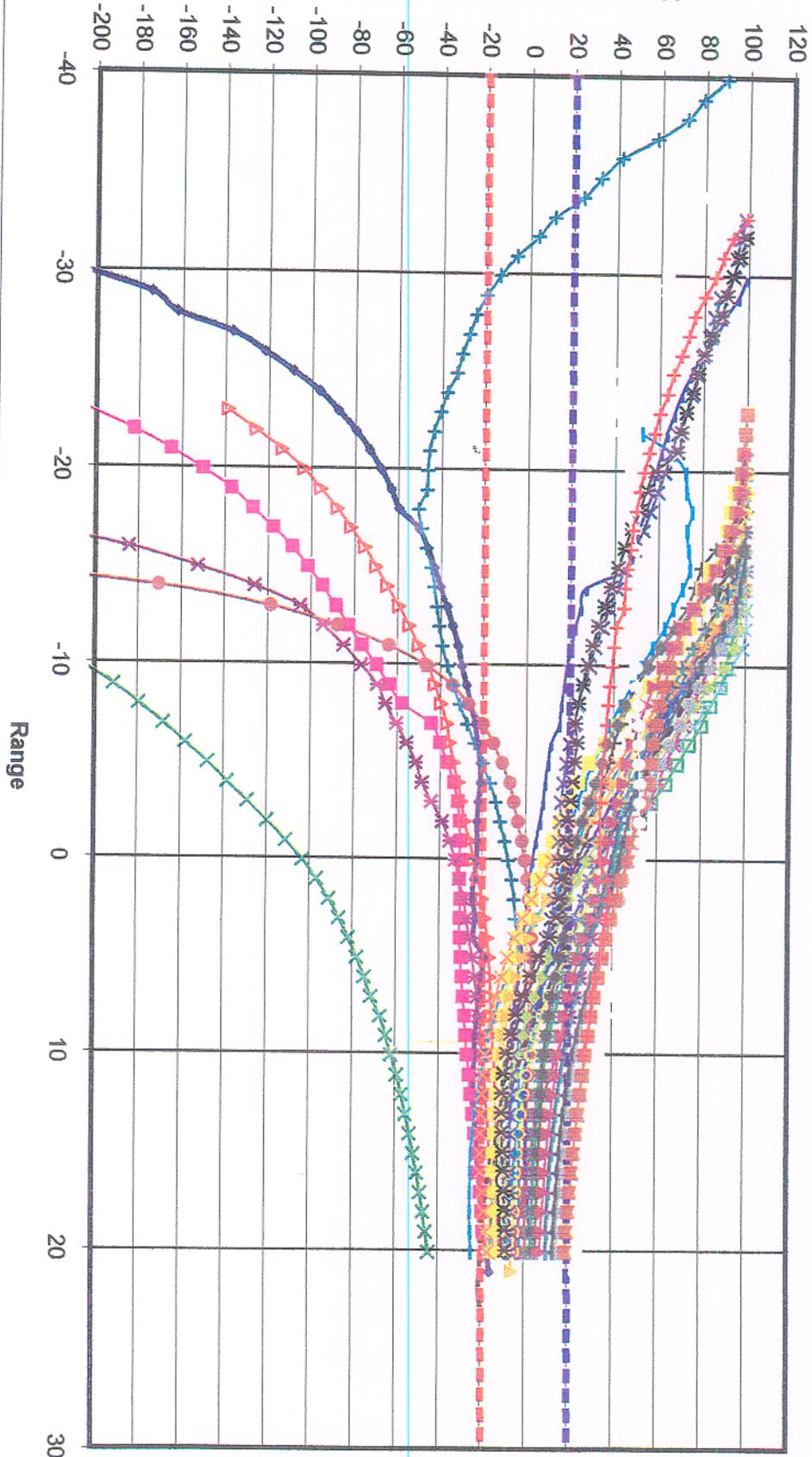
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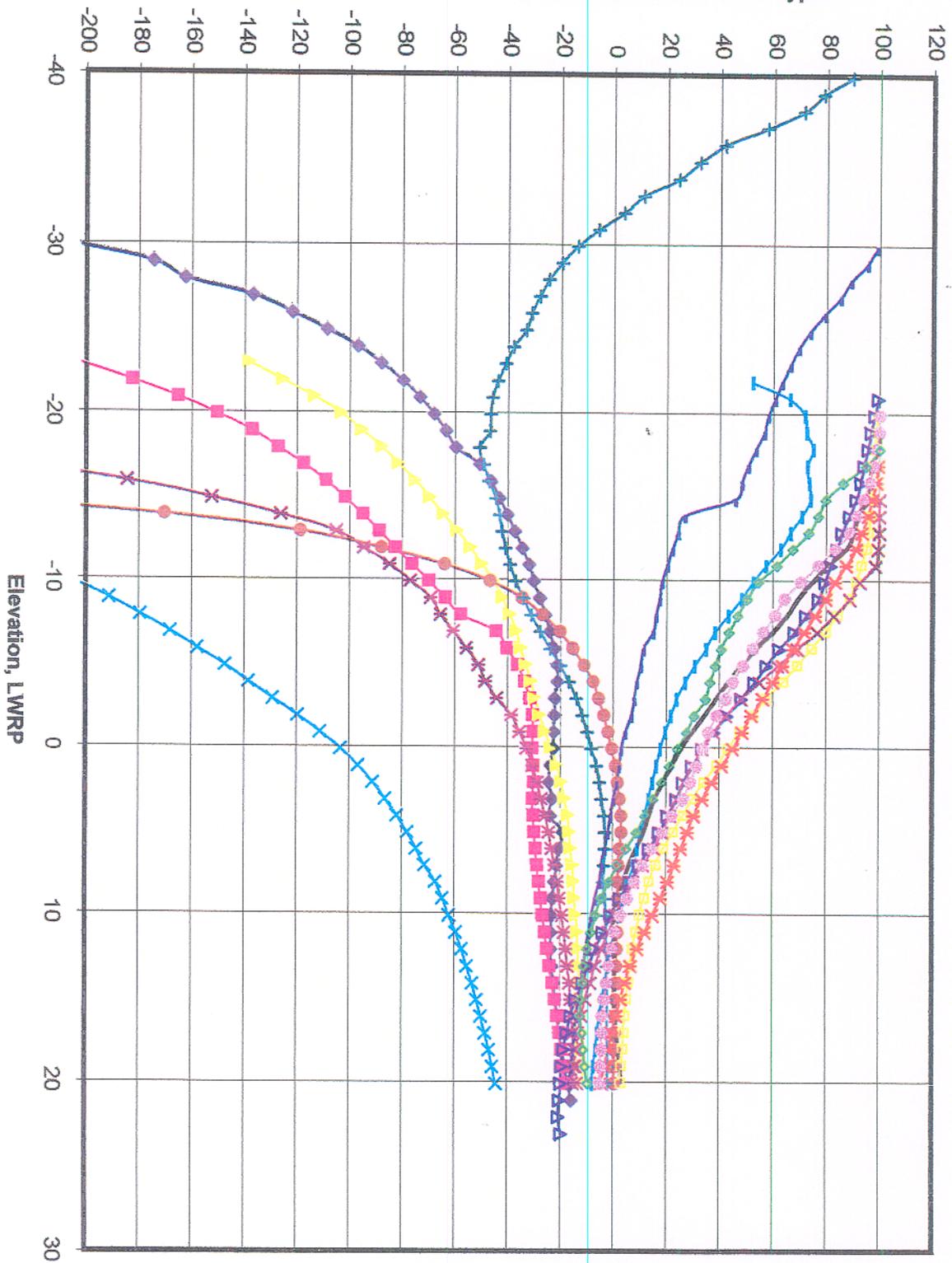
Phone

Percent Difference in Area Model to Prototype



R-25	R-26	R-27	R-28	R-29	R-30	R-31	R-32	R-33
R-34	R-35	R-36	R-37	R-38	R-39	R-40	R-42	R-43
R-44	R-45	R-46	R-47	R-48	R-49	R-50	R-51	R-52
R-53	R-54	R-55	R-56	R-57	R-58	R-59	+20%	-20%

Percent Difference in Area - 041201 Model vs 2001 Prototype



- R-25
- R-26
- R-27
- R-28
- R-29
- R-30
- R-31
- R-32
- R-33
- R-34
- R-35
- R-36
- R-37
- R-38
- R-39
- R-40