

## Tarsacci MDT 8000 Usage Notes – Part 2

### Tips and Info about the MDT 8000 metal detector.

Updated July 4, 2020

This is Part 2 of this summary of forum posts. Part 1 ended on January 5, 2020.

No guarantee these tips will work well or that they are mistake free. Use at your own risk! Some early tips might be superseded by later ones. These are just selected tips/comments, not all.

*From posts on dankowskidetectors.com forum, mostly by NASA-Tom (Tom Dankowski) unless otherwise shown. In chronological order, from January 7, 2020, to early July, 2020. Many of Tom's comments address a particular user (Badger, Dew, Cliff, etc.) who asked a question. I've included ones of general interest. --TallTom*

[NASA-Tom](#)

[Re: ON THE HORIZON = MDT-8000](#)

January 07, 2020 10:34PM

Registered: 14 years ago

Posts: 8,722

Update: Dimitar & I have been contemplating 2 additional coils for the MDT platform. IF IF IF they ever come to fruition..... it will take a fairly lengthy amount of time,,,,,,,,,,,,, due to the fact that the electronics are designed specifically around the existing 11" x 8" DD coil. We've been working on this..... for (just over) a year. . . . and we are still uncertain if we want this direction.

No further data.

[NASA-Tom \[ PM \]](#)

[Re: ON THE HORIZON = MDT-8000](#)

January 08, 2020 02:46PM

Registered: 14 years ago

Posts: 8,722

Don't take this wrong.....but: Dimitar & I could care less about 'looks' of a coil. (((Don't get this confused with ergonomics))).

What we care about is: "PERFORMANCE". We move full-speed-ahead if it's about performance. We move 'zero' if it's about looks.

Dew..... you are correct. If you have a 11" DD coil..... or ..... you have a 11" round coil,,,,,,,,,,,,, when you sweep side-to-side (which is: normal fashion)..... you cover nearly the exact same amount of coverage/ground.

The difference is:

- 1.) The DD coil will separate adjacent targets better.
- 2.) The round coil 'might' provide better depth. . . . assuming it is not too large to begin with.

As you guys have seen/witnessed..... the 11" DD coil on the EQX is the pinnacle coil for the EQX. Yes, the electronics are very specifically engineered for this coil. The unit does extremely well with any other coil; yet, the performance delta/difference is not as great as you would expect (because of yesteryears detector performance resultant ---and subsequent ensued mindset---). EXAMPLE: If you look at the CZ platform..... the best 'all-rounder' coil for the CZ was the 8" coil (which is actually a 7-1/4" coil). BUT..... if you switched to the 5" coil..... or the 10.5" coil..... there was a very linear performance resultant (subsequently: satisfying your preconceived 'expectation').....and..... you could really 'apply' the benefits into the real World with these different coil sizes. This sounds like a spanking/slam on the optional coil sizes for the EQX..... but it is not. Rather..... it is a statement for the fact that

the 11" EQX coil (and electronics) has managed (been engineered into) "capture" the attributes of the different coil sizes..... and has been (deliberately) engineered INTO the 11" coil/electronics package. Not perfectly.... and not 100%; yet, highly 'captured' (usable).

((Seems like a defiance of physics & geophysics))). We have made the command decision to move-forward in this 'specialty coil' direction.

((What hurts me is: You guys don't know..... what you don't know. If only I could send you a 'standard' 11" round DD coil for the EQX..... and THEN you could see/feel/witness standard/low performance. You would THEN see/feel/witness the engineering advancements that have been captured (and instilled) with coil advancement technology. You would then have genuine appreciation of that higher-tech 11" EQX coil that you have. With a 'standard coil'..... you would also recapture yesteryears "performance-difference" between the different coil sizes.)))

Soooooooooooooooo..... where am I going with all of this. The MDT coil is even MORE so.....a 'specialty coil'. So much so ....that.....,,,,,, it has made it a real pain for us to make any other type of coil for the MDT. I still 'question' if it can even be done. (We're trying). BUT..... just like the EQX..... the MDT's coil allows for it to achieve unheard-of performance depths/gains..... over any other 'standard' 11" coil. It has always been my dream..... to have a smaller coil: achieve the depths of a much larger coil; yet, retain greater adjacent target separation characteristics of a small coil. Be careful what you dream because: The dream has come to fruition (((and we are now realizing that we have only touched the proverbial tip-of-the-iceberg))). We are finding ways to bend the EM field (making it more focused) without upsetting the inductive balance equation.

Since we are hellbent on VLF IB (SMF or otherwise)..... am I prolonging (delaying) the death of this (very) old technology? Postponing a paradigm-shift into a new realm technological advancement? "Pushing" VLF IB to performance levels that were never previously imagined? What if I am NOT 'helping'.... after-all!!!

[Following are air test TID numbers by me (TallTom) and posted on January 25, 2020.]

**Tarsacci MDT 8000 Jewelry Air Test TIDs                      25 January 2020                      TallTom**  
**(from 4-5 inches above horizontal target, using fairly fast sweep speed)**

<b>18KHz</b>	<b>12KHz</b>	<b>9KHz</b>	<b>6.4KHz</b>	<b>Target</b>
5	4	4	4	1.3g <b>14k</b> woman's ring
5	5	4	5	2.5g <b>14k</b> woman's ring (white gold)
5	5	5	4	2.4g <b>14k</b> girl's quinceanera ring
5	5	5	5	1.8g <b>14k</b> woman's ring
5	5	5	5	2.4g woman's 900 platinum wedding band
6	5	5	4	2.4g dental <b>gold</b> crown
6	5	5	5	9.4g stainless steel man's ring
6	6	6	5	13.5g man's 950 platinum wedding band
7	6	6	5	<b>US nickel</b>
7	6	7	6	12.2g man's platinum wedding band
9	7	7	6	8.0g <b>14k</b> man's wedding band
9	7	7	7	7.3g man's 950 palladium wedding band
10	7	8	7	4.1g <b>10k</b> man's wedding band
11	8	9	8	6.6g <b>18k</b> woman's(?) wedding band
12	9	9	9	1.2g 925 ring
12	10	10	9	1.5g 925 ring
13	10	10	9	8.4g <b>14k</b> man's wedding band

14	11	12	10	8.6g <b>18k</b> man's wedding band
14	12	12	11	9.9g <b>18k</b> man's wedding band
14	12	13	13	<b>US penny (zinc)</b>
15	12	13	12	16.2g <b>14k</b> man's ring
19	17	17	17	<b>US clad dime</b>
19	17	17	17	<b>US penny (copper memorial)</b>
20	19	18	18	3.3g sterling solid round St Christopher pendant
21	20	19	18	2.5g 925 ring
23	22	20	21	<b>US clad quarter</b>
23	22	22	21	18.8g 925 open bracelet
23	23	21	21	5.2g 925 ring
24	24	23	23	6.2g 925 ring
25	24	24	23	20.0g 925 skull ring

Tested with BlkS off, Salt off, Track off, TrH -2, Dsc 0, Sens 6, Gb 500.  
When TID number fluctuated, used a faster swing speed to find a consistent number.

**[From NASA-Tom on February 6, 2020:]**

If you are in really bad dirt..... start slow/mildly with the MDT. Maybe 6Khz, Sens 5, Thresh -2..... then Grnd Balance the unit. Then..... when you find a few really deep targets..... switch Black Sand "on" and "off"... .. and see which setting helps with greater depth and ID. Holler at us ...if you need any help.

**[From cdv (Cliff) on February 6, 2020:]**

One thing I noticed on the MDT yesterday after I planted a 2 gram gold ring at 12-13" deep. (Settings: 9 Sense, 0 Threshold, 12KHz), I could clearly hear the ring in All Metal but the ID numbers bounced around, for the most part all positive, that for me would be a clear indication of a target I would take a scoop off of to investigate further, however, I decided to try Mixed Mode and found that the machine clearly gave a good tone (mid tone) clearly on each swing. That kind of tonal indication would make that deep small ring a target I would surely dig. Wet sand hunting on the iffy targets I almost never switched to Disc or Mixed modes to verify targets, I would depend on the ID numbers. Now, knowing what I saw/heard yesterday will make me switch more often to check targets, something I regularly do in the water but rarely on the wet.

**[From NASA-Tom on February 11, 2020:]**

One of the neat things about the MDT is..... it is a fairly easy unit to learn/use. MUCH simpler than units that have pages of menu's..... and pages-and-pages of sub-menu's. The only thing that may (falsely) appear to be "difficult to learn" about the MDT is: "Black Sand" and "Salt Balance". The bottom line is.... Black Sand is either "on" or "off". It's that simple. You can find a deep target..... and see if Black Sand "on" or "off" helps performance. Then there's Salt Balance. For inland dirt hunters..... you have the option to invoke Salt Balance... .. then perform a very standard balance procedure..... that is identical to exactly how you would Ground Balance many different flavors of detectors. Then test it over a deep target..... to see if it helps performance even further. Remember: Salt Balance, Black Sand and Ground Balance are separated out into individual functions..... so you have full control..... and can gain even further performance..... above what a detector would do ....if they were all consolidated/clumped together.

**[February 19, 2020:]**

For those detecting in the wet-salt (that now have some experience)..... try running your Tarsacci in 9Khz, All Metal..... and with Sens on '9' and Thresh on '0'. Give it a try!  
(Some of you are already at Sens '9' and Thresh '0').

**[February 19, 2020:]**

Paul..... that is REALLY good data..... especially for inland application(s). Yes..... when mineralization starts to get bad..... the Tarsacci is..... by far..... the preferred choice..... regardless of inland dirt/-or-/wet-salt beach hunting. What really means a lot to Dimitar & I is..... you are doing this (bad mineralization) with 18Khz. Wow! ----- Very good data.

It's crazy. I 'push' folks into the Equinox..... if they are in medium-low mineralization. I 'push' folks into the Tarsacci..... if they are in medium (or higher) mineralization. The most severest of mineralization (ie: Culpeper dirt)..... I then 'push' the GPX series. New Zealand iron dirt..... I 'push' the Tarsacci again.

Brian..... the Tarsacci MDT-8000 IS a inland/dirt unit! I keep making the mistake of biasing its intended purpose/usage...as a wet-salt unit. It is; yet, it is more of a general purpose unit..... to strongly include: inland dirt hunting. Relics and coins.

**[From Keith Southern on March 29, 2020, after posting demo videos (minor editing):]**

The Tarsacci in the Video is in Disc mode instead of Mixed mode, MAINLY for videoing. The Mixed is as you know modulated more and harder to hear on camera..The Disc mode is more saturated and louder for the camera to pick up.

I myself like the mixed mode even in moderate iron, only dropping to Disc mode in heavy machine gun iron. In the field it's mixed mode all day long.

The mixed mode gives a lot of info.

One thing I do on Mixed mode is run disc up to zero to shut off the iron tone. I don't need the iron tone in mixed mode as the threshold tone lets me know the iron. I've found the Iron tone actually can clip some of the high tone intelligence in mixed mode, so basically I have a light weight nautilus feel with disc on 0. Plus Mixed mode allows me to monitor ground blow back and re-ground balance more often.

I have also found that, if the ground is VERY hot, to bump the Ground balance about 10 points higher than the grab. I mean very hot Ground..850-950, 6 Fe bar dirt. I have tested the N.Z coil for hot ground and found it can handle the super hot 850 plus dirt with ease at a cost of depth. BUT if you take the Stock regular coil and bump up Ground Balance about ten points, it handles it as well as NZ coil and you have better depth. Dimitar says the NZ coil is for dirt really worse than mine. And I believe him as i can get the regular coil to run in my worst dirt. I also used a good dirt coil but to be honest it cant run in my milder site soil. In one sandy site about 550 dirt, 2 bars, its pretty stable but I found the stock coil to handle that and offer about same depth as good dirt coil. So to offer some assurance the Stock coil that comes on the Tarsacci is able to handle some pretty bad soil.

The Tarsacci has a more CZ style audio even a ID Edge style in Disc mode, more compressed, less nuanced. The Mixed offers some nuance.

That's the hardest thing I had to overcome with the Tarsacci. The audio is not talkative in disc mode at first. I get a lot of high tone chirps from iron. Other machines give the same chirps on some targets from cross checking but I can instantly ignore them as falses. On the Tarsacci I had to learn to ignore them. After awhile you get the feel from a forced high tone chirp to a legitimate high tone that may be chirping but it's rounder. Shallow to mid depth is a no brainer but its the really deep stuff that can almost sound like a false from its just being a chirp faint sound at depth on a legitimate target. The Tarsacci audio in disc is full blast to depth then that last little bit can chirp at extreme depth and sound like a nail false chirp.

The best thing about the Tarsacci is that as the mineral gets worse, the target seems to get stronger. I think maybe you can see that in the video of the hot rock. The dime under the hot rock sounds better than it does alone. Same

in the field. I can dig some deep small targets that bang, then out of the hole they want to sound scratchy, but they are good targets at crazy depths.

Don't underestimate the Tarsacci in iron either. It can lock onto a target in nails. I've done it. Actually crazy to see happen.

I've also found like Tom told me first week I used it. IT'S not a VLF..You cant run it set up like you think you can a VLF. You dont have to push it hard to get depth. Even 6 sens is deep, it still hits my 10 inch dime. And I usually run negative 2 threshold and bounce from 6, 7, or at times 8 sens if soil is milder.

Another reason the Tarsacci is chirpy on nails, not bigger iron, but nails, Dimitar told me, is he designed it to BLEED those faint reports to not miss deep low conductors. But after awhile they can be easily told and the Mixed mode makes it easier too. I've found the Deep small tiny nail pieces that can chirp in mixed mode won't have the approach or departure threshold womp womp. It's just a tiny chirp alone. A deep legitimate target will have some womp womp threshold approach and departure even on, say, buckshot.

I've always been impressed with Dimitar's ability to build a machine. The ID Edge made me take notice of his skills. The Tarsacci is in ways like a EDGE but way more powerful with advanced transmission methods.

I may add Dimitar's a builder and a user and knows what he's after. He has that passion a builder who detects possesses. Those are the guys to watch. I've always said a technology that changes the game will come from a maverick builder, not a mainstream company.

Yes, you're right Paul. Especially in my soil, its like having pulse soil punch but disc ability.

**[From Keith Southern on April 3, 2020 (with TallTom editing, reviewed by Keith):]**

Tarsacci in bad dirt and iron, which is a double whammy for masking, is doing very very well at finding targets intermingled.

I was in a site that we have worked on for 30 plus years -- House site, camp area, and march route battlefield, all in one. It's the type area you just can't get a signal to dig unless you chase nail falses type stuff to hope and luck up.

The dirt in this site on Tarsacci ground balances at 910 and FE numbers on F75 are a good 5 bars. So for my area of operations, this is not an out of the norm spot.

In iron (in heavy iron) the 18khz is the way to go, as it should be for more reactivity to targets. The machine settings for this site were also: Salt Mode ON balanced at 21, 6 Sens, Negative 2 threshold, Black sand off, Disc mode 0 disc, so iron was silenced. I just wanted to concentrate and see what the uninterrupted high tones could sound like. There's two high tones in disc: mid high and high. No low tone for iron, no mixed mode either in here. Way too busy for that.

This site is a nightmare to hunt from the iron. Big, small, weird -- all on top of each other from about 1840 to about 1920, with a war fought on top of it to boot. Over the years it's given me and a lot of local hunters great finds. Reb buttons, plates, Yankee buttons, lots and lots of bullets for everyone.

It's no secret site and it's pounded on. They graded through it about 3 years ago and churned up some more stuff. First 6 months after that it was no surprise to go there and see 5 or 6 guys swinging it daily. Lots more goodies were coming up for us to find. Then, as a site does that gets all of a sudden rejuvenated, it started to get scarcer and scarcer. It's just basically solid red clay, exposed pottery shards everywhere, black glass, iron laying everywhere. A well hole open right in middle of it, barriered off.

So back to the Tarsacci on this site: I came through this site last week on a walk back to the truck. I had been back in a 950 dirt site in the woods, 6 bar dirt, hot rocks aplenty, doing some coil testing. As I had cut through to shorten my walk, I hit a clean signal in this spot full of iron and it stopped me in my tracks. I thought, well, must be modern trash. I dug a hole open, got targets till I got there, then dug some more. About 7 inches or so, out pops a dropped 3 ringer .58 caliber. I said, huh, really? Then I got a pack stud about 3 feet away, another clean hit. Now this is in awful iron and I was still in mixed mode from the woods hunt I had been in and 12kHz.

Later that night I was talking to Dimitar on the phone and mentioned before hanging up about the bullet and it surprised me being so clean sounding. I was surprised, Dimitar was not. He asked some particulars about the targets and the nails, etc. in the hole and he just laughed and said, Yep!

It was in my mind about that laugh, so I went back to the same spot and set it for optimum audio intelligence in heavy iron. Yes, it's still noisy like this, but this site is eaten up in iron. My first target was a solid lock at ID of +2 out of +30. Then I couldn't find it and it was barely audible in the spoil pile. When I did find it, it was a shotgun primer -- the little primer out of the center of a paper shotgun shell casing. I thought, come on, with this big coil I got that clean of a hit? Then I chased some weird hits, then the audio in here hit me. Nail falses were quick dead sounding, but real hits had a sonar ping. Clear ping, echo-type hits. So it was partial pip pip pip high tones, then a sonar echo high tone. Sort of reminiscent of those WW2 Sub movies where the operator gets sonar pings. So in this one area around the well, I dug a good 10 to 12 pieces of lead. Flat button. Old smoothed out penny. Twisted up brass pieces, etc. 50 caliber round ball. They all were clean, anywhere from inch down to, say, 4 or 5 inches down. I left the site with a new appreciation of the Tarsacci for iron hunting.

What I had seen with the Tarsacci in the woods on unmasking targets from bad dirt, I was also seeing in iron unmasking.

What I have so far come to see with the Tarsacci is it sees what others can't in terms of either the soil mask, a target of a certain size, or conductance. This is usually smaller than a dime from, say, couple of inches down to about 10 - 11 inches. Things a normal machine can't see from soil overpowering the target. It can be small items or low conductance items. Things that the soil won't let break through. The other machines in these sites, like VLF, FBS, BBS, etc., have gotten a lot but the strength of the soil shuts targets down at some point. As the soil mineral increases, the more the conductance and size of targets you find EASILY with the Tarsacci increases.

Now we have some iron See through too. And most of the targets I have found so far in heavy iron in mild soil or bad soil have been the same low conductance or small. So what we have going on is actual see through, it seems. Not that I'm seeing through a piece of iron, but the Tarsacci has the ability to tell a non ferrous target from a ferrous target when they are intermingled, and allow the good target to be more SEEN.

Dimitar has told me mineral enhances the target, and he's right. Targets in the soil at times sound cleaner than when out of the soil. Iron ore dirt buried targets sound cleaner buried than exposed to air. So now I see targets that are in coil view in iron, sound cleaner than just lying alone. The iron is also enhancing the non ferrous report. Its almost the OXIDE of iron is enhancing the targets through, say, leeching. Plus the iron sites like the site above are already in iron ore soil. Like a target boost. Other machines may also be seeing these targets but the oxide and ore is destroying the clarity.

Any non ferrous target and any shape is hit, I might add, in this scanrio.

The Tarsacci is not a normal machine and its doing things out of the norm that we are not used to. THIS IS REAL TECHNOLOGY like I haven't seen in my soil. This is the type unit, you have to set it up right for your site but it's doing the work for you easily once it gets purring.

Don't try and run mixed mode in heavy iron even though it sounds more VLFish. Mixed mode filters are set low to bleed more audio as high tone, even deep iron. Disc mode is set to dissect with some stronger filtering to stop

iron high tone bleed. Don't overpower the unit. The see though is the magic and even on sens of 6, I can see a ten inch dime in bad soil. Don't let the machine see too much soil if it's bad. Let it be able to discern a real target from mineral or iron.

This machine is as close as I've ever seen to a P.I. with disc.

Don't give up or dismiss the technology if you have one. It's the real deal! This has the feel to me like an FBS gave me 20 years ago. It's different and we have to learn how to use it. IT'S HIGH TECH! It's quirky and all, and not perfect, but what it does do is like I've experienced now for little over a month. It sees things others can't or struggles with. Get used to the audio and rely on its accuracy and it will become second nature like any machine. It has a different feel for sure, but it should. It's different tech. When you get it set right, and you can tell when you do once you accustom yourself to it, it's pretty dang SLICK!

I had a hard learning curve with the machine for reasons only known to the designer. BUT I'm glad he subjected me to it on purpose. It gave me deeper insights. I started off backwards: A set up unit that would not hardly run in my soil. Then I went to a normal set up unit and that showed me so much and why this and that happens.

**[From Keith Southern on April 5, 2020 (minor editing):]**

Over on Steve's forum he brought up something I answered him on and I wanted to post it here too.

He was saying take notice of the learning curve. And that's very very true.

And to me It might be easier for a newer hunter who isn't yet set in his ways to adapt, than just a new buyer.??

I replied and I'll share this.

I don't want anyone to think it's a walk in the park on my account. I too struggled with it and still have learning to do. It's an unorthodox unit. It's quirky. The worse the soil a person has, the better results he may have with it. But you don't turn it on and get blown away on inland sites. It takes time to see what it's doing and how to tune it. Find it out. Study what you see is happening and notice things it's doing other units are not doing, or struggling to do, on in soil targets. If a user starts to pay attention to this, he will see its strongest point.

What I mainly wanted to do is, how should I say, is LET CAT OUT OF THE BAG .The strongest point to the machine is mineral punch. It's in a lot of ways like getting a P.I. machine to run in the soil like with timings etc on maybe a GPX type unit. Keep it stabilized, learn audio traits.

The Tarsacci is collecting a lot of soil DATA, that's for sure. It's seeing everything mineral, rocks, Even seems ground temp changes from sunny sites to shady sites. It's using a filter to silence these things very sparingly. In my mind, and only my mind (no inside info), it's doing this to punch tricky soil. See it all then try to decipher it in processor. So what this does is create a machine that can get mineral ping at times, even slight blow back at times, from soil. Sort of an all metal discing feel. But it's pretty intelligent in what it does. It just creates quirky hits. Not dead pan hits but some weird feedback. And the salt balance seems to be there to help Filter some of that quirky ping hits.

This is where adapting your brain to a ping hit to a sonar echo type hit comes into play. My biggest problem was and still at times is chasing pings. Foot deep small and or bent nails. I'm used to a say VLF chirp/ping being a deep goody barely making it through. On the Tarsacci, pings are rejected targets. The sonar echo sound is the legitimate hits.(Gotta have headphones on). The biggest problem a user will face inland is deciphering these reports. It's not the bigger nails and up iron, it's the small, inch-long or bent stuff. The machine wants to not let those pass by if it's not getting a solid read. It will lean more to trying to let them through than assign them as

iron. This is it so seems not to miss iffy deep goodies. I've also learned that deep goodies, say penny sized and up, don't really ping or sonar echo, they become a fuzzier high tone.

As far as hunting my favorite sites' thick iron, if I had started out in a site like that with the Tarsacci, I would of gave up. Learn it in light iron areas first, off the edge of habitation sites, etc. The iron hunting for me is where I like to be. More chances in habitation areas to make more finds than random scattered throughout say the woods fields. And the Tarsacci exhibits something unique in that scenario. I'm not going to say it's a Deus in iron, it's not. But it does do one thing well and that's punch bad soil. And I've always had it in my mind if I could combat bad soils and iron mixed, there's more and it's not deep. Maybe just lurking 2 inches. As we know, that big coil is not the best for iron site work but it's pretty dang good for its size on recovery speed from one target to another. Yet it's not a blending type unit so it relies on gated audio. Much like T2s, Czs, etc. So what I see in iron is those targets are or should of been got but the combination of bad dirt and iron leech halos shut some targets down. I'm sure they were not severely masked in terms of abundance of nails etc on top of the targets and a good machine should of already got them. Its' the machine's ability to handle or see through the halo fusion of iron soil and iron oxides meshed. Now this is all in my head but I know what I seem to be seeing. And its a thought process I have had for a long time, wanting a unit to be built that would combat it somewhat. That's my biggest enemy, bad dirt and lots of iron.

I know the beach hunters want a large coil. I want a small coil!!! I want to fully see what this unit will do in bad iron, bad dirt mix. It may not be what it was designed for?? but it has something going on in iron. It needs to be explored further.

Once I knew the sound of a legitimate target to a false, the unit became very conveying in iron. It's actually less noisy than most machines in iron, it's just the compressed audio traits are the learning curve. A user who dissects iron with vlfs will find the Tarsacci is well behaved comparatively speaking, but you have to figure the audio out.

I see what the unit is doing, now we have to apply it. Learn it. Dont think old school, think new school. It can feel alien but it's doing something. First few hours I ran it, actually first whole battery charge, I was so disconnected from the soil I was almost depressed about it, but let it sink in. I like to have a connection to the soil and the Tarsacci to me was Chinese talk with a poor translator. Now it's starting to feel more English to me. Well, maybe Brooklyn accent English. I need it to get to Southern accent English LOL. I'm joking but I'm excitedly waiting for it to become second nature to me, become my friend.

I will also add I was at a disadvantage for the first few days. I was using a Bad coil, yet wasn't sure it was bad. BUT after I got the coil fixed and sorted out, the noise I was enduring dropped dramatically. BUT the first coil had taught me somewhat how to figure out hits. Once I got a PROPER coil, the intelligence level went up. And the language took off. So I had a handicap to start with but it actually helped me. A user coming to the Tarsacci will not see what I saw. And actually it is not that hard to digest the audio when its running right. Sort of like a FBS unit, we had to learn the language. It's different BUT IT WORK'S!

**[From Keith Southern on April 6, 2020 (minor editing):]**

I got a question from someone and it's not the first time I've been asked this.

How to salt balance inland?

Here's what I do. And it seems to work in the field. And once it's set for the frequency, it's usually pretty dead on even as the ground balance gets changed. You may have to tweak it a number or two here or there in soils, especially rocky areas or fertilized areas, etc.

What I do is ground balance in All metal mode, then salt balance in the exact same spot I ground balanced. I salt balance by setting salt on 1 and bobbing coil up and down. As I approach the ground the signal will get stronger



as a rise in threshold. I keep turning the salt balance up and checking till the it just stays quiet as i approach the ground. It will get weaker and weaker report till it's gone as you raise the numbers. And as a Rule of thumb I've actually found that 18Khz is usually around 21 salt balance. 12KHZ is around 26-27. 9 kHz is around 31 and 6.5KHZ is about 33-35. Best to do this in either mixed mode or all metal mode to hear the threshold rise, though All-metal works the best.

If any user wants to see or experiment, no better place than to take it to the asphalt and put it in all-metal mode and play with it. There seems to be enough I guess I should say salt in asphalt I've been testing it on (which is more than one area) to see it in action. Asphalt is weak salt response but it will show you how it can balance it out.

Some of my dirts can really have a strong salt response when balancing but then it usually reaches the same point as the asphalt.

Play with it and watch what happens. Set sens as high as you can for locale. Ground balance it on say 18KHZ, then turn salt on and put to zero. Then bob coil towards pavement. Hard bob, not soft. Go down fast, right down to the asphalt. Don't slap the asphalt but get right down to it. You'll hear a rise in threshold. It may be weak but it's there. Start turning the salt balance up one click, then do it again. Get it to where that rise as you approach is gone. Then stop.

Now change freq to say 12KHZ, then do ground balance, then salt balance procedure and you will see you have to go few numbers higher on salt balance as the freq goes lower.

What's neat is the salt balance setting is saved to the freq! Change freq, salt balance goes to the setting for that freq, Then change back and the setting you set it at is there.

The salt balance helps in the see through of soil.

Now this is Georgia asphalt so maybe it will work in your locale?

You can also set the Salt balance to certain types of troublesome rocks and burnt coal, I'm told.

### **[From Keith Southern on April 13, 2020 (minor editing):]**

More hunting time on the MDT.

The more iron jambalaya under the coil, the better it unmask. It's actually crazy to see it happen, especially when cross checking targets with vlfs.

Here's something else, the Tarsacci runs quieter in heavy iron than about any high performance VLF I've used. World class unmaskers in heavy iron can sound like pin ball machines. The Tarsacci in heavy iron is way quieter, yet sees what a vlf does not from the noise it's making on rejected targets.

In other words, even though you get the audio intelligence of an iron sifting VLF down in your head and do amazing things, there's still things lost in the racket. The Tarsacci sees items clean with less racket.

What I first saw as a hindrance in the audio I now know why it's like it is. You get some pinging on rejected targets but the pinging is way less than the VLF racket partial and or full on false sounds. The Sonar echoes just break through and are way different than a ping. Once you learn to trust the unit, the iron sites will light up with vlf missed targets. Any size and shape non ferrous is not safe in iron.

The MDT is using the iron matrix to enhance the non ferrous. I'm almost certain of this. Like it uses bad dirt to

enhance targets which is crazy to see. It's using iron to enhance non ferrous targets and it's INSANE to see.

I pulled the innards of a pocket watch out of a site Saturday that sounded so good I thought it was a piece of modern trash on top of the ground. It was about 7 inches down, size of a 50 cent piece, in nails and weird cut iron. I cross checked with two more units and it was so dang noisy from falsing I would not dig it. I couldn't isolate it to dig it. It was in a 30 year hunt site next to a well hole. I actually had a hard time hearing once it was out of the soil in the spoil pile. There was so much iron in the pile I had to move the dirt around to get it again. CRAZY TO SEE HAPPEN. Thin brass, size of a 50 cent piece. Iron residue caked up from the gears on the back side.

I dug more targets there too. Button, pocket knife, end caps, melted lead, cut brass, etc. I mean a dead site. People won't even hunt this site anymore. It's beat on to the audio intelligence of keepers is gone now.

Another thing is there's shredded roofing tin in there and its not even bothering me!

Machine is the real deal in iron. Just trust it.

I'm at the point now of I'm scared not to use the machine. I'd feel like I was going backwards.

TRUST THE UNIT.

**[From Keith Southern on April 14, 2020 (minor editing), responding to Badger:]**

Badger, when you move into the high iron machine gun is when it will AMAZE you. The more iron it can see, the more it can decipher. The iron will be a false ping but not nearly as bad as a VLF. The Good will be a sonar echo report.

On the isolated iron out in the fields, like nails that ping high, sometimes I think a user (me included) may try to make it into more of a diggable sound than it really is. BUT once you move into an iron target heavy area, the pinging becomes nothing, the Sonar Echo hit becomes everything. and very easy to tell after some time spent analyzing good from bad.

The Tarsacci is doing amazing things in iron and in bad dirt. There's some quirks to why it's doing it. I honestly feel the quirks are the by-product of the technology. It has to be quirky to do its magic. Now, I went through about 3 battery charges and it's down to time for another charge, and I'm hooked on its audio. Now it's talking to me.

I've actually analyzed the Tarsacci in open areas and in iron laden areas against a T2, and the T2 falses a whole lot more. But T2 is VLF and has a different audio response from the compressed Tarsacci audio, and to lifelong VLF users the T2 is TALKING More understandable language. BUT the Tarsacci has a Language too. I know its hard to believe but the Tarsacci is falsing on iron way less than any unit I have. Till you get the audio in your head and TRUST the Audio, it can seem you're scared to walk away from a target.

Here's something to let sink in to users I have found. In iron the Tarsacci on the good sonar hits I'm getting, give uncanny coil rotation and target stays centered under the coil. The VLFs on same cross check maybe one way and at times the falsing is so bad I can't even tell if its legitimate or iron false.

That's the eye opener. The more the Tarsacci has to analyze, the stronger it gets.

If you have a, say, isolated or even intermingled target you think maybe it's sonar hitting, start to rotate. If it drifts off center of coil, it's iron.

Air testing is not the best way to see the Tarsacci unmask in nails. It needs the dirt matrix. That's one reason I

showed the horse shoe and hammer head. It saturates the coil, then the magic starts. Just a nail and a target in compromised position in air test is not enough for the Tarsacci to analyze. It needs that soil matrix and iron oxide secretions to really amp up its analysis.

It's wanting some reference point on masked items.

Its actually fun to run in iron. Just don't overdrive it.

**[From Coilpower on April 16, 2020, reporting from New Zealand:]**

**BLACK IRON SAND**

Formed 2.5 million years ago from volcanic activity in the Taranaki region of NZ, our black iron sands are predominantly Iron and magnetite, with small amounts of titanium, manganese, vanadium, calcium, silica and aluminium oxides which are swept up the coast as far as North Cape -a distance of about 400km –and beyond..... getting ground into finer and rounder grains as it travels. Wave energy is high to extreme and with prevailing winds it winnows out the less dense and lighter coloured quartz and feldspar sands, leaving behind the denser black iron sand.

In 1969, Glenbrook Steel Mill was the first smelter in the world to produce steel from these titanomagnetic sands and in 2010 iron sand and coal were being used to produce about 650,000 tonnes of steel a year, exporting to Australia, Japan and China. These iron sands provided raw material of relatively low grade, containing 58–60% iron by weight after they had been concentrated, then processed by the smelter. So.....seriously black iron sand known to cause 3rd degree barefoot burns on a very hot day!

The West Coast beach profile varies from maximum concentration of approximately 58% titanomagnetic iron sand at top end to perhaps absolute minimum 40% to minimum can be attributed to natural erosion of coastal land, rock and shell sediment and also I have found weather conditions will vary this concentration of iron sand. Bands of varying iron concentrate may also be dispersed throughout the beach profile hence I run TRACK ON, which only affects GB, NOT depth.

ONLY a PI unit can handle these black sands, (and they too are limited) Most have given up detecting them. I gave up with a Tesoro Sandshark and sold it, my experienced hunting buddy couldn't get his GPX5000 to stabilise with either of his coils and my other buddy with a Sea Hunter Mk2 couldn't get the depth or targets I get. The Tarsacci....whilst not the Holy Grail...YET....out performed the others with the NZ coil which coped far better than the standard coil could. Not perfect but doable. Don't get me wrong....those detectors mentioned are VERY GOOD.

NZ East Coast beaches are more of a quartz composition along with a base of shell and rock sediments. Volcanic Hot Rocks are also encountered along with mud silt from land erosion and river deposition. The iron % content is also lower, but is intermingled with mud etc. The waves are also of a far lower energy than the west coast. To date I have been impressed with being able to run the Tarsacci MDT 8000 with success (finding rings, jewellery etc and trash) under a variety of West and East Coast weather/beach conditions without a cacaphony of sounds through the headphones BUT you MUST get your GB and SALT balanced to run silent.

**[From NASA-Tom on April 16, 2020, responding to Coilpower:]**

Your report is the most profound report.....to date. This is exactly the data I was looking for. In the US..... our (orange/red) dirt can be heavy iron oxide. In NZ.... your dirt is IRON. When the steel industries use your dirt to make iron products.... that makes a profound statement. Everything you said exemplifies (and validates) DanielTN statements, reports and encounterings. In your dirt..... I can see where proper Ground Balance

becomes crucial. . . . . and rightfully so.

And..... in your dirt/conditions..... the Tarsacci is performing better than a GPX..... is yet; another profound discovery/statement. Bottom line is: Not much should ever trump the GPX series.

All of the videos/data that Keith has shared..... clarifies these discoveries. I am trying to remain (mostly) reserved about these discoveries (and the Tarsacci performance).....as.....I am wanting the public to 'discover' the Tarsacci.

Dimitar & I had lengthy talks about a \$8000.00 price-tag for the Tarsacci. This was the original price/target. After heavy deliberations..... we set the price at \$1539.00.....,,,,,,, knowing Dimitar may never recoup his 18-years of "blood" and financial outlay; yet, our target was to get the Tarsacci OUT..... and 'make a name'.

Mission accomplished.

**[From NASA-Tom on April 26, 2020:]**

Keith..... I am months behind in responding to all of your posts..... with the false belief that I'm going to find a ton of time.....to eventually rightfully 'catch-up' with you (and subsequent posts).

First..... I mega-appreciate all of your 'blood' that you have put into ANY detector.....and in this case: the Tarsacci,,,,,,. then share your experiences/findings.

Next..... your latest video is..... once again..... phenomenal. I have several take-aways with it. I can tell that there is not much 'wiggle-room' for this test to perform the way you want it to. ----- Here's the weird thing: On a very limited capacity.... I can get an old CZ platform....(and a CTX) to do the same thing. BUT..... there's one major difference. With the CZ..... I must be in 'Salt' Mode..... and heavily alter the Ground Balance (in a very narrow adjustment span) in order to achieve similar resultant. With the CTX, I must also set-up (change)..... to non-standard (not normal) setting(s)..... with the ferrous/conductive/iron zones of the CTX..... in order to achieve a similar resultant. BUT.....(((and here's where I have a hard time explaining..... "conveying in words"))) the results. On both the CTX and CZ..... when the coin is under the strip of airgun nails..... there is a somewhat increased amount of high-tones emanating in the audio report. Yet, they are absolutely/positively non-ferrous/high-tone FALSES.....accompanied with VERY washed-out sounding audio. Target sounds that leave the operator with 'confirmed' false audio (no-dig resultant) reports. On the Tarsacci..... IT TOO..... gives non-ferrous reports (tones) whilst coin is under the strip of nails; YET.....BUT..... the audio is absolutely ""preamble, body, post-amble"" = sharp, ....., distinct, clear-cut, clean sounding non-ferrous "target" response. The audio is NOT 'washed-out' sounding. It is a audio that leaves the operator with a: 'dig' resultant. And THIS..... herein..... is exactly where the advancement lies with a tremendous 'difference' of the Tarsacci..... as compared (if we are allowed to compare TO) all the VLF platforms.....SMF ....or otherwise. This technology is a major breakthrough..... major leap..... in the right direction.

BUT..... herein..... lies (yet) ANOTHER problem. How do we "teach" others..... "how" to set up the unit for such (unmasking) performance..... AND..... "what" to listen for. The technology is there..... and it is real,,,,,, but..... as I am learning..... it MUST be taught!!! If not.... folks will 'bail' on the "Ferrari". (((Analogy: In the 1980's..... take away the man's 1266X..... and hand him a CTX. Let him figure out the menu's, menu's, menu's and sub-menu's. In short order..... he'll throw the CTX in the ocean...and demand his 1266X back))!!!

Keith..... I still feel (with legitimate justification)..... that your Civil War sardine can video is still.....the most 'conveying'....., and for many reasons.

Keith..... your dirt clod..... and your (1 or 2) mineralized bricks..... even in a video..... poses a very 'clear' picture of just exactly how well the Tarsacci 'cancels' AND: 'sees through'..... bad mineralization.

Keith..... your ability to figure out the Tarsacci (especially Salt Balance) in your bad dirt... ..coupled with the audio intelligence format: is the 'key' to all of your bad-dirt success.

I would love to see more teachings/explanations/experiences of 'how' to adjust (mis-adjust!!!) the Salt Balance...  
... so as to 'unmask' better...in carpets of nails.....in bad dirt. This is 'right at'....where the technological  
breakthrough resides.....on the Tarsacci. Teresa, Daniel & Keith have 'fight-the-good-fight'..... and have "paid the  
dues of TIME"..... to .....first-and-foremost: Learn the bad, bad dirt. Then.....secondly..... learn the few  
controls (and their specific use) on the Tarsacci.

I feel I can describe (with one word): Teresa, Keith, Daniel (and quite a few others!) = PERSEVERANCE

**[From NASA-Tom on April 28, 2020:]**

For those wanting to hunt in thick carpets of nails with bad/mineralized dirt..... with the Tarsacci..... START  
with the following settings (so as to enhance your learning-curve MUCH more rapidly):

Sens = 5

Thresh = -2

Disc = 0

Notch = 30

Perform Fast Grab Ground Balance in target-free dirt

Mode = Any; yet, this is dictated by your age/hearing-acuity

Salt Balance = Dictated by your specific mineralization type & level

Keith..... correct me if I'm askew!

Word-to-the-wise: If you start with too high of a Sens setting..... and too low of a Thresh setting,,,,,, your  
fatigue-rate will be climbing much faster than your learning-curve. You will ascertain = guaranteed failure.

Let's start a Tarsacci unmasking campaign! (((You'll see 'why'))).

Definitive data captured yesterday:

Tarsacci. Wet slope. Right at saltwater's edge.

14" Nickel. Weak but 100% repeatable signal = Sens 8, Thresh -1, Disc -30, No Notch, 9Khz, Black Sand 'off',  
Ground Balance 600, Salt Balance 30

15" Nickel. Weak but 100% repeatable signal = Sens 9, Thresh 0, Disc -30, No Notch, 9Khz, Black Sand 'off',  
Ground Balance 600, Salt Balance 30

BUT, BUT, BUT. There is a caveat. In order to run these maxed-out settings..... you MUST be a (one  
Decade.....or greater) seasoned detectorist. Vertical coil velocity must be ZERO. Horizontal sweep velocity:  
STEADY. If you are a very seasoned wet-salt detectorist..... this performance (with these settings) are indeed  
ascertainable.....and without much difficulty.

(((For Dew: There is very negligible loss of depth/performance..... when saltwater was flowing (with some speed)  
over either of these Nickels. --Unlike VLF's--))).

**[From Keith Southern on May 4, 2020, regarding settings for thick iron:]**

Yes 18Khz for my dirt and iron mixed, Salt always on. Try and find a freq that's the smoothest mineral handling  
for your soil, not really hottest for a conductor like a VLF mindset is.

Tracking off, Black Sand off,

-2 Threshold mainly. -1 or zero is an option but it really starts to chase teeny tiny stuff. It really is a sizing feature.  
-2 still hot on pistol balls P caps.

Sens about 7 and bump it up or down a point by site trash density.

Disc mode -30 most intelligent for deciphering signals.

Sweep speed: CZ speed, maybe tad slower. Not slow like BBS FBS speed though,

If a person has 2 bar and up dirt and iron too, you will find targets in iron sites. And may seem eerily easy.

**[From Keith Southern on May 16, 2020, regarding salt balance and black sand:]**

I have not had a use YET for black sand mode.

I know I had what is called the NZ coil to try out for awhile and it seemed to behave like black sand mode was on when comparing it to my stock coil with black sand on.

If you need a NZ coil and black sand turned on to boot, man that's some tuff soil to punch in. I'm glad you have something to tackle your soil Teresa!!

In the worst dirt I could find, I used the NZ coil. It's 6 bars and 980 ground balance soil, solid powder red dirt. I tried the NZ coil on it and it smoothed right up over the stock coil from chirping. Yet I went and placed the stock coil on and used black sand mode and it was sort of chirpy. I then turned black sand off and turned ground balance up about 5 points higher than the ground setting to about 985-987 area and it smoothed up with stock coil, enough to be as intelligent as having black sand on and standard dead on ground balance. Yet was pleased I can get by with not have to use black sand and run it straight.

So, Yes, black sand is very unique compared to iron oxide dirt. and the Tarsacci can handle and punch extremely bad dirt, here anyway, with some ground balance tweaking and still have black sand off.

But this is not to say maybe if I was in some wet iron oxide dirt that I may not have to resort to black sand mode?

Salt mode is always on for me unless I have a low ground balance number. I think Dimitar has told that below 600, salt is not working even if on. Correct me if I'm wrong Tom/Aaron?

I've started to mess with other freqs on the Tarsacci as of late, now that I'm more comfortable and settled in on the Sounds. The 6.4Khz really does punch well in iron and still sees small stuff in nails. I dug a Rail Road cuff button the other day, I know 6 inches deep in nails and it just slapped it hard. Once out of hole I had to eye ball it to find it as the amount of nails from a burnt civil war period house was overpowering the cuff in exposed dirt. Big thing though was it read like 10 or so ID in hole before digging, and out of hole and testing passed coil in air it was about 8 ID. I also found some small pack studs and rivets, harmonica parts, brass knife end, and small lead in this site with the 6.4 Khz. Amazing to see on that low of freq.

One other thing I want to add is get a set of headphones for the Tarsacci that you like. Ones that really talk to you. You'll find the Tarsacci really has a lot of target info in the audio. At first I heard a beep. Now I hear a lot more. Sizing, Modulation, even target nuance sounds.

I tried a good bit of phones that I have on hand and found the Garrett Clear Sound Easy Stow Headphones really talk to me.

**[From Aaron on May 17, 2020:]**

Yes Keith that's correct, Salinity is not needed under 600 Ground. However, Dimitar also said that it doesn't hurt to leave it on. Hence, I always leave my on as my ground varies from high 500's to high 700's.

FYI....Dimitar also said that you should try experimenting w the Black sand on & off in various situations as it may help.

**[From Abensom on May 26, 2020:]**

As many of you may remember I got a Tarsacci back when they were first released and had it for about 4 months. I mainly used it for relic hunting but did a little beach hunting with it as well. Never ventured into thick iron with it while I had it though.

About a month ago I picked up another one and have been testing it in the field for many hours. Also been messaging Keith, Tom, Arron and Daniel getting their settings/advice on working the Tarsacci in heavy iron/mineralized ground.

So here's what I found. First, you are going to need to setup the Tarsacci for your ground specifically, other people's settings don't always work. I've found that my salt balance numbers are way higher than others I have compared them to, my ground salt balances at 44 and within 4 points up or down I get significant noise when pumping the coil. My ground balance is anywhere from a low of 636 to a high of 802 depending on where I'm hunting. Black sand makes a little difference in depth, but I find the best use for it is to mitigate EMI. 18 KHz seems to best in iron, 12 KHz in open ground, at least for me. I've been running sensitivity at 7 and threshold at -2 for the most part. I think Keith mentioned in one of his posts that running threshold at -2 keeps him from digging the small bitty stuff and I agree. In iron I like disc mode and the jury is still out as to whether I like running -30 disc or 0 disc. 0 disc sure makes for a quiet hunt but -30 disc gives a lot more information. In open ground I think I like All Metal the best. Sweep speed needs to be right especially in iron and IMO you can't work the Tarsacci like a VLF with short choppy strokes. The Tarsacci needs to be swung side to side in a consistent manner and I like using about a 3 foot wide sweep to keep things under control.

Now in the really thick iron I found that running my salt balance up to 50 which is max (I could probably use a higher range) and my ground balance up about 150 points higher than the actual GB number really starts to do some serious unmasking. Iffy signals really start to clean up.

I've done some hunts now where I've taken the Tarsacci through an area and dug every non-ferrous signal I could find. Then gone back over with the Equinox 800 11" coil and dug nothing but a few nails or bits of lead that were iffy on the Equinox but sounded good enough to dig. So the Tarsacci isn't missing much and isn't falsing on the iron anywhere near as bad as the Equinox. The Tarsacci isn't a Deus killer though IMO, in shallow trashy sites, the Deus is still at the top of the list in that regard. But in areas where targets are mixed with iron down to the 12" plus range it's a great machine and I feel can run right along side the Equinox no problem. Really the only advantage I'm seeing with the Equinox is really small low conductors like .22 brass/lead and p-caps. Small pewter button size targets and up the Tarsacci has no problem with. It does take some time to keep from chasing the few nail falses the Tarsacci has, but you soon start to recognize when you're over a good target vs a nail/iron false.

I'll start posting some finds and do some videos. Videos I'm finding are really hard to do with the Tarsacci in the field, the sound is really quiet and getting the sweep speed right while trying to hold a camera isn't that easy. Might be time to get a chest mounted GoPro.

**[From NASA-Tom on June 23, 2020:]**

Hey Cliff & Dew..... I did some more saltwater depth testing with the MDT today. I'm finding near-zero depth loss IN the saltwater,,,,,, to include: rapidly moving water. It looks like the only difference that may be encountered.....is..... the coil sweep-speed is at a much slower rate whilst IN the water. This slower coil sweep-speed (prohibitive hydrodynamics) can show some very small deltas. Today .... I had found several deeper targets in the water (of varying conductivities)..... that allowed me to test/play/analyze/data-collection: 'varying conditions' performances. This also explains/validates "why" I'm finding so much more targets in the water.... than ever before. ((( I never realized just how performance-inhibiting 1.) coil submersion in saltwater ..... 2.) 'moving' saltwater..... can kill performance on a VLF platform . . . . . , to include SMF. )))

Kingfish asked..... yet, I have new data to share with all Tarsacci owners: A few months ago..... I reported that Problem-1 with the advancement of creating a larger Tarsacci coil..... was tackled. I (now....as of recent) .... can report that Problem-2 with creating a larger coil ..... has also been tackled. Only Problem-3 remains. It's (deeply/heavily) 'in-works'. We are also doing everything we can to NOT have the coil wearing a \$600 price tag.

TO ALL TARSACCI BEACH HUNTERS. It has taken me quite some time; yet, I will spare you all of the details..... and simply get to the nuts-and-bolts. Along nearly all of the Eastern Seaboard of the United States... .... I have found (on average)..... a Ground Balance of 637..... to present the best stability ..... on the wet-slope saltwater beach. This is whilst in 9-Khz. Since the bulk of the Eastern Seaboard of the US has very little minerals..... Ground Balance truly suits no function. Soooooo..... instead of using the Ground Balance function to balance out minerals..... I have been experimenting with utilizing (employing) the Ground Balance function..... for something much more non-traditional. That being: Enhanced stability.....(so I can run Sens higher; and Thresh lower.... giving even greater performance). 637 .... appears to be the magic number. (((In the past..... I had just simply placed Ground Balance on '600'..... and left it alone))).

Whilst performing all of this testing..... I have also discovered: running Salt Balance exactly on que..... or..... 1-point higher,,,,,, the Tarsacci presents best audible stability. Here in Florida..... my beaches Salt Balance at 32 (sometimes 33)..... whilst on 9-Khz. Soooooo..... by running Salt Balance at 33 or 34..... will present best performance and stability. This is..... on the wet-slope. IN the water..... things change! Dew (and Cliff/Tom/Larry) can educate you with dramatic (unsuspecting) data.

**[From Keith Southern on July 2, 2020 (minor editing):]**

Ozzie what I do in iron to get some better unmasking that works for me is what I call desensitizing (for lack of better word) the iron somewhat.

You can't Salt balance to iron, not even a nail, in a way like you balance to the soil. Iron being a solid metallic object. But you can desensitize it some.

Say you're on 18Khz, ground balanced. Set to disc -30. Sweep around and Find some iron in the site like buried nails. Small iron grunts. When you find the nails (which should be easy if it's a house site, heavy concentration of them is always there), turn salt balance on and raise coil up above the nails about a foot. Bob coil say from foot to 11 inches above the nails or whatever it takes to barely hear them on down stroke. You want to find where they just start to come in weak. Just a slight wah sound. When it starts to wah, pull back up. You want to find that spot above the nails where they are weak. Right where they begin to be seen on down stroke. Start adjusting you salinity balance up a number and push down maybe just an inch but still having to keep maybe a foot above the nails. Go up a number, then check with slight push. You'll eventually find a spot where the nails start to get weaker response. Find the spot on the dial that they are the weakest or even does not report at all on say the slight push towards them. This is the spot you want it at. Then stop adjusting.

You can move back out of the nails and do one more ground grab. Then you're ready to hunt.



You'll still hear the nails as grunts like always. They are not gone, but they are DESENSITIZED somewhat to the machine. Think 16 penny nails may look like a 12 penny nail to the machine analogy. Or square nails look like finishing nails now to it. Maybe not that great but to just give a picture to the mind's eye!

Here's what works for me in iron on 18khz for square nails. May or may not work for you in the soil without some tweaking. 18Khz, Sens 7, Theshold -2, black sand off, Salinity about 43, Ground is usually around 800 area.

Sweep speed dependent for best results. Think CZ speed.

Use -30 disc to help on troublesome flip flop iron. The machine is very good at ID'ing iron accurately. The tiny small pieces of cut nails may call you out but the -30 disc will let you know its flopping. Bigger iron nails on up are actually quieter than a VLF on falsing.

The sonar hit will also tell you it's a good target vs. a quick sharp ping/chirp of nail false.

Sonar hit has that good round feedback sound.

What's crazy is you'll get a sonar hit, no iron buzz but open hole, and investigate and you'll see a lot of nails in hole too with the keeper target. Whereas say on your F75, a good hit may be also grunt hit grunt on same target. The Tarsacci isolates the good target and reports only that. Very, very quick machine. If it gets a sense of a non ferrous piece, it locks on it.

Also, targets that are somewhat affected by the salinity balance, that is, very low conductors, will seem to ID more by purity than by conductance. That is, foil to the machine will be different than a good alloy like gold or lead or brass, etc. Like, say, foil on a vlf reads 2 and a pistol ball reads 2. Well, on Tarsacci the foil can be fluttery or wavy or disappear. And foil reading 2 as the salt balance is neutralizing it, but the Pistol ball that reads 2 will slap hard.

This is what happens to light iron. Some of makeup of it is desensitized and the small targets or low conductors jump out better than it can on a VLF where it's reading a nail as strong. Nail can overtake the pistol ball on VLF but on Tarsacci the nail looks slightly less to the circuit. SLIGHTLY, but in terms of unlocking that's a big step.

**[From NASA-Tom on July 2, 2020:]**

Keith..... your skillset (in bad dirt) is REALLY a time-saver for many. To get folks immediately "well launched"..... on a MUCH more (time-saving) learning bell-curve.... with the Tarsacci. . . . (even though it primarily involves only one adjustment..... That being: Salt Balance). This one adjustment can be "slow-learning"..... especially if you do not have the time to regularly hunt. But..... with all of your help/input Keith..... you are saving tons of 'learning-curve' time.....for many folks. Especially in my absence. Once again: I profusely thank you!

Steve..... it will primarily be your subconscious ..... that starts to 'feel' the audio of the Tarsacci (especially with Keith's recommendations/help with certain adjustments).....whereby..... you will experience more epiphanies. (More eye-openers to come).

Dew..... I hunted in 4-deep water.... early in the morning....., when the waves were minimum (about 3-foot waves). Since the sun is the creator of ALL weather..... the waves are at minimum height...early, early in the morning. BUT..... I was still being bounced around (and dunked!) by these waves. AND..... it is WITHIN these waves ..... that precludes me from using 18Khz. When I get more comfortable (((being dunked)))..... I may deviate from my 9Khz..... and start to test 12Khz..... IN the dunks! Makes me realize....., I HAVE been water hunting..... for over 40 years (30 years with very serious/concerted

intent)..... BUT..... on in about 2-feet deep of water! Rarely do I venture out in 4-feet deep water. ((( I'm only 5' 10"..... @ 170lbs. )))

On this note..... with Zinc Pennies ID'ing as a mid-tone on the Tarsacci.....,,,,,, this is exactly what prevents me from using it as a coin hunter....in inland/turf/dirt hunting applications. Indian Head Pennies ID (ever-so-slightly below a) Zinc penny. Silver Half Dimes ID in that Zinc Penny range. Nearly all of the early Wheat Pennies ID as a Zinc Penny. I do not want to miss these coins (because they all ID as a mid-tone on the Tarsacci)..... whilst high-tone coin hunting.

When I am in a relic hunting capacity with the Tarsacci..... this condition/problem.....becomes a moot point. Hence; stunning relic hunter.

### **[From Cal\_Cobra on July 2, 2020:]**

I read the interview (part1/part2 and more to come) that Keith and Aaron had with Ditmar [*Dimitar, the MDT 8000 creator*] and it was quite enlightening.

I found it interesting that the MDT-8000 was originally designed for relic hunting not beach hunting, and for challenging dirt, which was, according to Ditmar, the main reason why he developed what I would call a dual ground balance system on his MDT.

I am curious how this transitioned from a purpose built relic machine to a beach machine?

I hope Aaron doesn't mind me sharing a couple of comments that Ditmar made that I found particularly interesting. I would encourage you to read the entire interview on Aaron's site, it's really well worth the read and very informative into the insights around the design of the detector.

Ditmar stated:

Keith - I know it ain't a pulse, but acts like a pulse...A LOT!

Dimitar - Ah,,,the main driver for this technology was the ability to ignore simultaneously mineralized ground and...salt -alkaline mediums, fertilized ground or nonmagnetic hot rocks like coke, natural graphite .. .

Keith - I think when you put mineral in the mix, the target sounds better. Better than the target lying on the top of the soil. For example, sometimes when you take the target out of the ground, it might be a buck shot or a pistol ball, sounds better in the soil. Once you get it out,,,I can still hear it, but it don't sound as good as it did in the ground...

Dimitar - Yes! Because especially in your area, your conditions, the ground is mineralized, and this mineralized ground actually helps you enhance the signal, this is why.

Dimitar - But again, there are limitations, you can't expect this to happen always! Another thing that is true and you'll discover; let's say if you have pieces from a very heavily rusted iron. For example: peace of old tin roof or peace of iron seating for a long time on the salty beach. Now this is how I discovered, I had a customer on the beach, and he had a different brand metal detector. We started detecting, at one point he said: "I have a very large target", the sound of the target was loud, and very strong. So, I passed the Tarsacci coil over his target and I could hardly hear it, and told him: "No, this is nothing." So, we began debating, and I said: "Let's dig it!" And we dug it, and it turned out to be a big piece of iron, which was very heavily rusted. The iron was starting to disintegrate, the sand around it looked like red clay from the rust. So, what the Salinity Balance does is helps you to see through this mediums and detect good targets. If it's solid iron, none of the machines will see the target behind it.

Dimitar - When you design a detector, let's say you have a group of targets, doesn't matter new or old targets, to

the detector it's a target. And if the thin small hammered coins are desirable targets, you design the detector to be able to detect these coins. And since there are plenty of these types of targets, this is why you have 18 and 12 kHz, and you can find these targets at greater depth. Now, since we're talking about the Salinity Balance, in England, coke is a big problem. And a lot people may say, "yes, I understand what coke is, but I never dig a piece of coke", which is not true. And this is a big problem, you see it on the forums, everyone talks about it. And sure, some of the detectors you can mask the coke, I'm not talking about anything else, you'll not see, you'll not detect the coke. But...once you have a target behind it...

**\*\*\*\* END OF PART 2 \*\*\*\***