```
int_upper_well_founded  THM

⊢  ∀n:ℤ. WellFnd{i}({n...};x,y.x<y)  by Analyze 0
|
1. n : ℤ
⊢  WellFnd{i}({n...};x,y.x<y)
| by Inst Thm* WellFnd{i}(ℕ;x,y.x<y)    {nat_well_founded} [lexpr{i}]
|
2. WellFnd{i}(ℕ;x,y.x<y)
⊢  WellFnd{i}({n...};x,y.x<y)
| by Using [‘B’,{n...};‘f’,(λz.z-n)]
|    (FwdThru
|     Thm* ∀r:(A→A→Prop), B:Type, f:(B→A).
|          WellFnd{i}(A;x,y.r(x,y)) ⇒ WellFnd{i}(B;x,y.r(f(x),f(y)))
|     {inv_image_ind}
|     [2])
|
3. WellFnd{i}({n...};x,y.(λz.z-n)(x)<(λz.z-n)(y))
⊢  WellFnd{i}({n...};x,y.x<y)  by Reduce 3
|
3. WellFnd{i}({n...};x,y.x-n<y-n)
⊢  WellFnd{i}({n...};x,y.x<y)
| by Rewrite
|    (HigherC
|     (GenLemmaWithThenLC -1 [‘n’,n] []
|      Thm* ∀a,b,n:ℤ. a<b ⟺ a+n<b+n    {add_mono_wrt_lt}))
|    -1
|
3. WellFnd{i}({n...};x,y.x-n+n<y-n+n)
⊢  WellFnd{i}({n...};x,y.x<y)  by ArithSimp 3
|
3. WellFnd{i}({n...};x,y.x<y)
⊢  WellFnd{i}({n...};x,y.x<y)  by Trivial
END
```