```
int_lower_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.n-z)]
|    (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.n-z)(x)<(λz.n-z)(y))
⊢  WellFnd{i}({...n};x,y.x>y)  by Reduce 3
|
3. WellFnd{i}({...n};x,y.n-x<n-y)
⊢  WellFnd{i}({...n};x,y.x>y)
| by Rewrite
|    (HigherC
|     (LemmaC Thm* ∀i,j:ℤ. i>j ⟺ -i<-j    {minus_mono_wrt_lt}
|      THENC
|      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.-(n-y)+n<-(n-x)+n)
⊢  WellFnd{i}({...n};x,y.x>y)  by ArithSimp 3
|
3. WellFnd{i}({...n};x,y.y<x)
⊢  WellFnd{i}({...n};x,y.x>y)  by Trivial
END
```