

Groundwater Application Review Summary Form

Application # G- 18566

GW Reviewer M. Thoma Date Review Completed: 01-30-19

Summary of GW Availability and Injury Review:

Groundwater for the proposed use is either over appropriated, will not likely be available in the amounts requested without injury to prior water rights, OR will not likely be available within the capacity of the groundwater resource per Section B of the attached review form.

Summary of Potential for Substantial Interference Review:

There is the potential for substantial interference per Section C of the attached review form.

Summary of Well Construction Assessment:

The well does not appear to meet current well construction standards per Section D of the attached review form. Route through Well Construction and Compliance Section.

SI 1/31/19

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).

OK
JHJ

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager
From: Joel Jeffery, Well Construction Program Coordinator
Subject: Review of Water Right Application G-18566
Date: March 14, 2019

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Mike Thoma reviewed the application. Please see Mike's Groundwater Review and the Well Log.

Applicant's Well #1 (JOSE 60212): Based on a review of the Well Report, Applicant's Well # 1 seems to protect the groundwater resource.

The construction of Applicants Well #1 may not satisfy hydraulic connection issues.

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 01/30/2019
 FROM: Groundwater Section Michael Thoma
 Reviewer's Name
 SUBJECT: Application G- 18566 Supersedes review of _____
 Date of Review(s) _____

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review groundwater applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation.**

A. GENERAL INFORMATION: Applicant's Name: Thomas Moellman/Andy Sandine County: Josephine

A1. Applicant(s) seek(s) 0.05* cfs from 1 well(s) in the Rogue Basin,
Lower Rogue subbasin

A2. Proposed use Irrigation Seasonality: Year Round

A3. Well and aquifer data (**attach and number logs for existing wells; mark proposed wells as such under logid**):

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	JOSE 60212	1	Bedrock	0.05	33S/6W-15NWSE	1804' N, 228' E fr S1/2+ cor S 15

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	1,330	246	10	8/15/2017	420	0-58	-2-58	58-420	360-420	30	-	Air

Use data from application for proposed wells.

A4. **Comments:**

*The application does not specify a rate so the rate is assumed to be the maximum rate (1/80 cfs per acre) for the proposed acreage.

†Location on application map references SW1/4 corner, but the corner is actually the S1/2 corner (the SW corner of the SE quarter).

A5. **Provisions of the** Rogue (690-515) Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water **are**, or **are not**, activated by this application. (Not all basin rules contain such provisions.)

Comments: _____

A6. **Well(s) #** _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.

Name of administrative area: _____

Comments: _____

B. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. **Based upon available data**, I have determined that groundwater* for the proposed use:

- a. is over appropriated, is not over appropriated, or **cannot be determined to be** over appropriated during any period of the proposed use. * This finding is limited to the groundwater portion of the over-appropriation determination as prescribed in OAR 690-310-130;
- b. **will not** or **will** likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the groundwater portion of the injury determination as prescribed in OAR 690-310-130;
- c. **will not** or **will** likely to be available within the capacity of the groundwater resource; or
- d. **will, if properly conditioned**, avoid injury to existing groundwater rights or to the groundwater resource:
 - i. The permit should contain condition #(s) 7C (7-yr SWL); 7J (Scenic); Medium Water-Use Reporting ;
 - ii. The permit should be conditioned as indicated in item 2 below.
 - iii. The permit should contain special condition(s) as indicated in item 3 below;

- B2. a. **Condition** to allow groundwater production from no deeper than _____ ft. below land surface;
- b. **Condition** to allow groundwater production from no shallower than _____ ft. below land surface;
- c. **Condition** to allow groundwater production only from the _____ groundwater reservoir between approximately _____ ft. and _____ ft. below land surface;
- d. **Well reconstruction** is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Groundwater Section.

Describe injury –as related to water availability– that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc): _____

B3. **Groundwater availability remarks:** There is a State Observation Well less than ½ mile from the proposed POA but is completed to only approx. 50 ft depth and does not represent the same aquifer system as the proposed POA which is producing solely from fractured bedrock. No other water level data are available for the applicant’s proposed aquifer in the area so Capacity of the Resource cannot be determined.

There are no permitted groundwater rights in the area of the proposed POA so injury to permitted water rights is unexpected. Additionally, taxlot density surrounding the proposed POA is fairly low so domestic groundwater use is likely disbursed enough that direct injury to exempt uses is also unlikely.

C. GROUNDWATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

C1. **690-09-040 (1):** Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	Fractured Bedrock of Galice Formation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: In fractured-bedrock aquifer systems the primary movement of water is through discrete but connected fracture sets. These fractures generally extend to near the surface and so water within these fractures is likely under atmospheric pressure (unconfined) despite an overall low storage coefficient for the aquifer system as a whole.

C2. **690-09-040 (2) (3):** Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Wolf Creek	1300	1250-1280	1680	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: Groundwater elevations are above surface water elevations implying that groundwater is flowing towards and discharging to surface water

Water Availability Basin the well(s) are located within: WOLF CR > GRAVE CR – AT MOUTH (ID# 279)

C3a. **690-09-040 (4):** Evaluation of stream impacts for each well that has been determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% natural flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
1	1	<input type="checkbox"/>	<input type="checkbox"/>	MF279A	1.00	<input checked="" type="checkbox"/>	1.71	<input checked="" type="checkbox"/>	< 25%**	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

Comments: **Stream-depletion was not estimated because the hydrogeology (high-relief bedrock aquifer juxtaposed with alluvial sediments) does not reasonably meet the model assumptions of widely-used stream-depletion models (e.g., Hunt, 1999). However, modeling in more-simplistic hydrogeologic regimes, which would predict higher stream-depletion than this regime, yields stream-depletion estimates less than 25% after 30 days and implies that interference for this proposed use would not exceed 25%.

C3b. **690-09-040 (4):** Evaluation of stream impacts by total appropriation for all wells determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. **Complete only if Q is distributed among wells.** Otherwise same evaluation and limitations apply as in C3a above.

SW #	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

Comments: _____

C4a. **690-09-040 (5):** Estimated impacts on **hydraulically connected surface water sources greater than one mile** as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

Non-Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)													
(E) = (A / B) x 100		%	%	%	%	%	%	%	%	%	%	%	%

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

Basis for impact evaluation: No surface water sources beyond 1 mile were evaluated

C4b. **690-09-040 (5) (b)** The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.

C5. **If properly conditioned**, the surface water source(s) can be adequately protected from interference, and/or groundwater use under this permit can be regulated if it is found to substantially interfere with surface water:
 i. The permit should contain condition #(s) _____;
 ii. The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions:** The applicant's proposed POA would be producing from an aquifer that has been found to be hydraulically connected to surface water – specifically Wolf Creek – at a distance of less than 1 mile. The proposed maximum rate of appropriation is greater than 1% of the pertinent adopted perennial streamflow for Wolf Creek and also greater than 1% of the adopted instream water right MF279A. Per OAR 690-009-0040(4) the POA is assumed to have the Potential for Substantial Interference. Reducing the proposed rate to < 0.01 cfs (~6460 gal/day) would avoid this automatic assumption of PSI per OAR 690-0090-0040(4)(c).

References Used:

Hunt, B. 1999. *Unsteady Stream Depletion from Ground Water Pumping*. Journal of Hydrologic Engineering, Vol 8(1), pp 12-19

Oregon Department of Geology and Mineral Industries, *Geologic Map of Oregon*. <http://www.oregongeology.org/geologicmap/>

OWRD Well Log Database – Accessed 1/30/2019.

Ramp, L. and Peterson, N. 2004. *Geologic Map of Josephine County, Oregon*. Oregon Dept. of Geol. and Mineral Industries, OFR O-04-13

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: _____ Logid: _____

D2. THE WELL does not appear to meet current well construction standards based upon:

- a. review of the well log;
- b. field inspection by _____;
- c. report of CWRE _____;
- d. other: (specify) _____

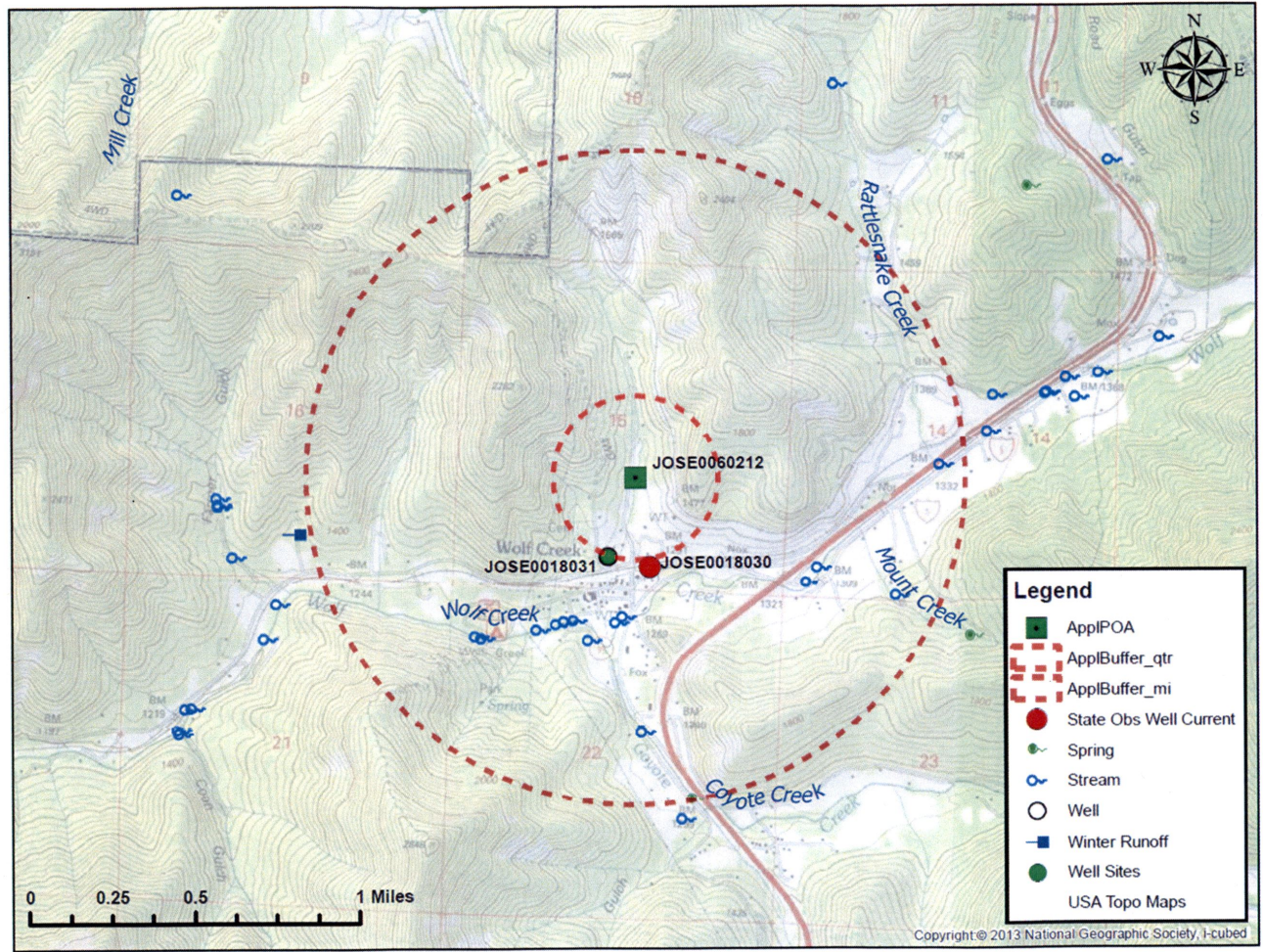
D3. THE WELL construction deficiency or other comment is described as follows: _____

D4. Route to the Well Construction and Compliance Section for a review of existing well construction.

Water Availability Tables

Water Availability Analysis Detailed Reports							
WOLF CR > GRAVE CR - AT MOUTH ROGUE BASIN							
Water Availability as of 1/25/2019							
Watershed ID #: 279 (Map)				Exceedance Level: 80% ▼		Time: 12:50 PM	
Date: 1/25/2019							
Water Availability Calculation		Consumptive Uses and Storages		Instream Flow Requirements		Reservations	
Water Rights				Watershed Characteristics			
Water Availability Calculation							
Monthly Streamflow in Cubic Feet per Second Annual Volume at 50% Exceedance in Acre-Feet							
Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available	
JAN	35.50	0.72	34.80	0.00	25.00	9.78	
FEB	56.40	0.94	55.50	0.00	25.00	30.50	
MAR	53.60	0.68	52.90	0.00	25.00	27.90	
APR	30.00	0.58	29.40	0.00	25.00	4.42	
MAY	13.80	0.81	13.00	0.00	15.00	-2.01	
JUN	5.75	1.07	4.68	0.00	15.00	-10.30	
JUL	3.18	1.38	1.80	0.00	1.00	0.80	
AUG	2.38	1.17	1.21	0.00	1.00	0.21	
SEP	1.71	0.82	0.89	0.00	1.00	-0.11	
OCT	1.81	0.38	1.43	0.00	18.00	-16.60	
NOV	4.47	0.21	4.26	0.00	18.00	-13.70	
DEC	16.60	0.52	16.10	0.00	25.00	-8.92	
ANN	28,100.00	561.00	27,500.00	0.00	11,700.00	17,500.00	

POA Location Map for Application G-18566



STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

JOSE 60212
8/23/2017

WELL I.D. LABEL# L 126467
START CARD # 1035784
ORIGINAL LOG #

(1) LAND OWNER Owner Well I.D.
First Name TOM Last Name MOELLMAN
Company
Address 6828 COPPER GLEN CIRCLE
City ROSEVILLE State CA Zip 95678

(2) TYPE OF WORK [X] New Well [] Deepening [] Conversion
[] Alteration (complete 2a & 10) [] Abandonment (complete 5a)

(2a) PRE-ALTERATION
Dia + From To Gauge Stl Plstc Wld Thrd
Casing: [] [] [] [] [] [] [] []
Material From To Amt sacks/lbs
Seal: [] [] [] [] [] [] [] []

(3) DRILL METHOD
[X] Rotary Air [] Rotary Mud [] Cable [] Auger [] Cable Mud
[] Reverse Rotary [] Other

(4) PROPOSED USE [X] Domestic [] Irrigation [] Community
[] Industrial/ Commercial [] Livestock [] Dewatering
[] Thermal [] Injection [] Other

(5) BORE HOLE CONSTRUCTION Special Standard [] (Attach copy)
Depth of Completed Well 420.00 ft.

Table with columns: Dia, From, To, Material, From, To, Amt, lbs. Rows include Bentonite and Calculated entries.

How was seal placed: Method [] A [] B [] C [] D [] E
[X] Other POURED
Backfill placed from ft. to ft. Material
Filter pack from ft. to ft. Material Size
Explosives used: [] Yes Type Amount

(5a) ABANDONMENT USING UNHYDRATED BENTONITE
Proposed Amount Actual Amount

(6) CASING/LINER
Casing Liner Dia + From To Gauge Stl Plstc Wld Thrd
Shoe [] Inside [X] Outside [] Other Location of shoe(s) 58
Temp casing [] Yes Dia From + To

(7) PERFORATIONS/SCREENS
Perforations Method saw cut
Screens Type Material
Perf/ Casing/ Screen Scrn/slot Slot # of Tele/
Screen Liner Dia From To width length slots pipe size

(8) WELL TESTS: Minimum testing time is 1 hour
[] Pump [] Bailer [X] Air [] Flowing Artesian
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)

Temperature 56 °F Lab analysis [] Yes By
Water quality concerns? [] Yes (describe below) TDS amount 98 ppm
From To Description Amount Units

(9) LOCATION OF WELL (legal description)
County JOSEPHINE Twp 33.00 S N/S Range 6.00 W E/W WM
Sec 15 NW 1/4 of the SE 1/4 Tax Lot 1700
Tax Map Number Lot
Lat " or 42.70075253 DMS or DD
Long " or -123.39572755 DMS or DD
[] Street address of well [] Nearest address
160 LOWER WOLF CREEK RD\NWOLF CREEK, OR 97497

(10) STATIC WATER LEVEL
Date SWL(psi) + SWL(ft)
Existing Well / Pre-Alteration
Completed Well 8/15/2017 10
Flowing Artesian? [] Dry Hole? []

Table with columns: SWL Date, From, To, Est Flow, SWL(psi), + SWL(ft). Rows show data for 8/15/2017.

(11) WELL LOG
Ground Elevation
Material From To
brown clay 0 4
decomposed granite 4 52
granite (hard) 52 246
granite (WB) 246 248
granite (hard) 248 378
granite (WB) 378 379
granite (hard) 379 420

Date Started 8/14/2017 Completed 8/15/2017

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
License Number 1878 Date 8/23/2017
Signed KERRY SCHATTENKERK (E-filed)

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
License Number 1284 Date 8/23/2017
Signed DOUG P SCHATTENKERK (E-filed)
Contact Info (optional) Southern Oregon Water Wells 541-672-7834

WATER SUPPLY WELL REPORT - Map with location identified must be attached and shall include an approximate scale and north arrow

JOSE 60212

8/23/2017

Map of Hole

STATE OF OREGON
WELL LOCATION MAP

This map is supplemental to the WATER SUPPLY WELL REPORT

Oregon Water Resources Department
725 Summer St NE, Salem OR 97301
(503)986-0900



LOCATION OF WELL

Latitude: 42.700752528 Datum: WGS84

Longitude: -123.39572755092

Township/Range/Section/Quarter-Quarter Section:

WM 33S 6W 15 NWSE

Address of Well:

160 LOWER WOLF CREEK RD, WOLF CREEK, OR 97497

Well Label: 126467

Printed: August 23, 2017

DISCLAIMER: This map is intended to represent the approximate location the well. It is not intended to be construed as survey accurate in any manner.

Provided by well constructor

