

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATIONPermit No: 51-12983Exam Date: 10/12/2012

1. Current Owner: BERT BRACKETT
FLAT CREEK RANCH
ROGERSON ID 83302
(208)857-2217

2. Accompanied by: Jake Brackett

Phone No: Same as AboveAddress: Same as AboveRelationship to Permit Holder: Owner's Son and Director3. **SOURCE**

PENCE SPRING

TRIBUTARY

LITTLE SPRING CREEK

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 57-12897A and 57-12895A
2. Other water rights with the same point of diversion: 51-12895A, 51-12896A, 51-12897A, 51-12898A, and 51-12957

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

PENCE SPRING SW1/4NE1/4NE1/4 Sec. 26, Twp 15S, Rge 10E, B.M. OWYHEE County

Method of Determination: GPS and Visual Inspection using GIS

2.

PLACE OF USE: STOCKWATER STORAGE AND FIRE PROTECTION STORAGE

Twp Rge Sec	NE				NW				SW				SE				Totals
13S 09E 24	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
															X		

PLACE OF USE: FIRE PROTECTION AND FIRE PROTECTION FROM STORAGE

Twp Rge Sec	NE				NW				SW				SE				Totals
13S 09E 24	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
											X						

PLACE OF USE: STOCKWATER FROM STORAGE

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
11S 08E 10				X													
11S 08E 13		X															
11S 08E 15		X			X	X											
11S 08E 25		X															
11S 08E 26		X								X							
11S 08E 28													X				
11S 08E 34											X						
11S 09E 18									X								
11S 09E 31					X												
12S 08E 1		X L 2															
12S 08E 3														X			
12S 08E 10		X															
12S 08E 11								X									
12S 08E 12	X																
12S 08E 13							X	X									
12S 08E 26	X																
12S 08E 35															X		
12S 09E 6				X													
12S 09E 30								X									
12S 09E 32													X				

PLACE OF USE: STOCKWATER FROM STORAGE (continued)

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
12S 09E 35		X															
12S 10E 32								X									
13S 09E 2				X		X L 4											
13S 09E 8									X								
13S 09E 9				X						X			X				
13S 09E 13										X			X				
13S 09E 23								X									
13S 10E 4														X L 12			
13S 10E 6										X L 6							
13S 10E 9					X								X				
13S 10E 18								X					X				
13S 10E 19			X														
13S 10E 20			X														
13S 10E 22		X															

Method of Determination: Visual inspection and GIS mapping

3. YES Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.

YES Aerial Photo Attached (required for irrigation of 10+ acres).

YES Photo of Diversion and System Attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Pence Spring Pump	Unknown	3	2823028110	Unknown	2 ½ inch PVC pipeline

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2. Measurements: No measurement was possible. A theoretical calculation was performed.**E. FLOW CALCULATIONS**X Additional Computation Sheets Attached

Measured Method:

(SEE ATTACHED DIVERSION RATE CALCULATIONS SHEET AND PUMP CURVE)

Theoretical Calculation = 0.05 cfs

Pump Curve = 17 to 17.5 gpm or 0.04 cfs

Existing Decrees allow 0.23 cfs (no measurements were made in the decree recommendations)

This Permit Requests = 0.23 cfs

License recommended for 0.05 cfs (permit and existing decreed rights were based on the maximum standard allowed without a measurement requirement in the Snake River Basin Adjudication).

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses:

(SEE ATTACHED STORAGE CAPACITY AND VOLUME RECOMMENDATION MEMO)

Reservoir Capacity = 5 acre feet

Permit Requests = 5 acre feet

License recommended for 5 acre feet. (This storage capacity is for a one time fill only. No accounting was made for seepage or evaporation or multiple fills.)

G. NARRATIVE/REMARKS/COMMENTS

The water for this permit is diverted out of Pence Springs by a 3 Hp pump. The water diverted from the spring is transported due west to a storage tank on top of Pence Butte. Pence Butte is the tallest point of this entire area with an elevation of 5696 feet. The water from the Main Storage tank is gravity fed to approximately 126 stockwater tanks and ponds within a 17 by 34 square mile area. The cattle are moved from area to area, so the water is only delivered to a few of these stockwater troughs at any one time. The unused water tanks are not filled until needed, and water is not diverted to them when the cattle are moved to a new location.

The water from the main storage tank fills the Fire Pond or the storage component for this permit. The pond was constructed to maintain a minimum amount of water for fire protection from the pond. There is a berm in the middle of the pond to provide the minimum amount of water needed for the fire protection storage component. The portion of the pond south of the berm is for fire protection and cannot be used for stockwater, and the water north of the berm is the stockwater component. When the pond is completely filled, the berm is submerged and the majority of the water can be used for either fire protection and/or stockwater uses.

A fire hydrant due west of the pond has been constructed to pull water from the pond for fire protection. The fire hydrant is on lands owned by the Air Force, but there is an agreement in place that requires the owner to maintain the fire hydrant and the fire protection pond in order to maintain his grazing rights on the Air Force lands. The Air Force has granted their permission in this agreement to allow the water rights to be in owner's name, so a change of ownership is not required.

The pond also provides stockwater from storage through a gravity fed pipeline. A pipeline from the pond provides water to approximately 42 water troughs or ponds north of the Fire Pond. The main water system can also supply these water troughs, so it is a combined system. The stockwater from storage component uses the same mainlines as the stockwater rights already decreed on the property.

The pond is fenced, so no animals can drink directly from the pond. There was no stockwater from storage component on the permit, but there was a stockwater component. Whereas the overlapping decreed water rights supply the same stockwater troughs with stockwater, the stockwater component was changed from stockwater to stockwater from storage to accommodate the stockwater from storage use that was not on the permit.

It should also be noted that the legal descriptions designated in this permit alter a bit from the decreed water right. The reason for this is that the stockwater troughs or ponds actually straddle the tract lines, so I included both tracts to ensure that they are covered. I have recommended to the applicant, that he go out and GPS all of the troughs, and file a water right transfer to ensure that all of the water troughs are correctly described. He seemed hesitant to do this, since the last transfers he filed were heavily protested. Hopefully, I have convinced him that it would be in his best interest to make sure everything is properly described.

The conditions on the permit limited the overlapping water rights to just 51-12957. The reason for this is that water rights 51-12895A, 51-12896A, 51-12897A, and 51-12898A had not been decreed at the time the permit was issued. Water rights 51-12895A, 51-12896A, 51-12897A, 51-12898A, and 51-12597 all use the exact same point of diversion, mainlines, and water troughs or ponds. The decrees have been issued for these water rights, so I did include them in the conditions for the licensing of this water right. The remainder of the conditions were either carried over from the permit or updated per current wording requirements for licensing. One of the conditions was altered to include fire protection and fire protection from storage be limited to fighting an existing fire.

This permit will need to be amended to cover the stockwater from storage component, and to describe the location of the fire hydrant for the fire protection from storage.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS**1. Recommended Amounts**

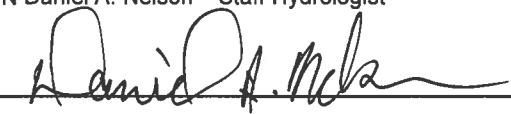
<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DIVERSION TO STORAGE	01/01 to 12/31	0.050 CFS	
STOCKWATER STORAGE	01/01 to 12/31		5.00 AF
FIRE PROTECTION	01/01 to 12/31	0.050 CFS	
FIRE PROTECTION STORAGE	01/01 to 12/31		5.00 AF
FIRE PROTECTION FROM STORAGE	01/01 to 12/31		5.00 AF
STOCKWATER FROM STORAGE	01/01 to 12/31		5.00 AF
	<u>Totals:</u>	0.050 CFS	5.00 AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None
☒ Change P.U. as reflected above ☒ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION Daniel A. Nelson – Staff Hydrologist

Field Examiner's Name



Date

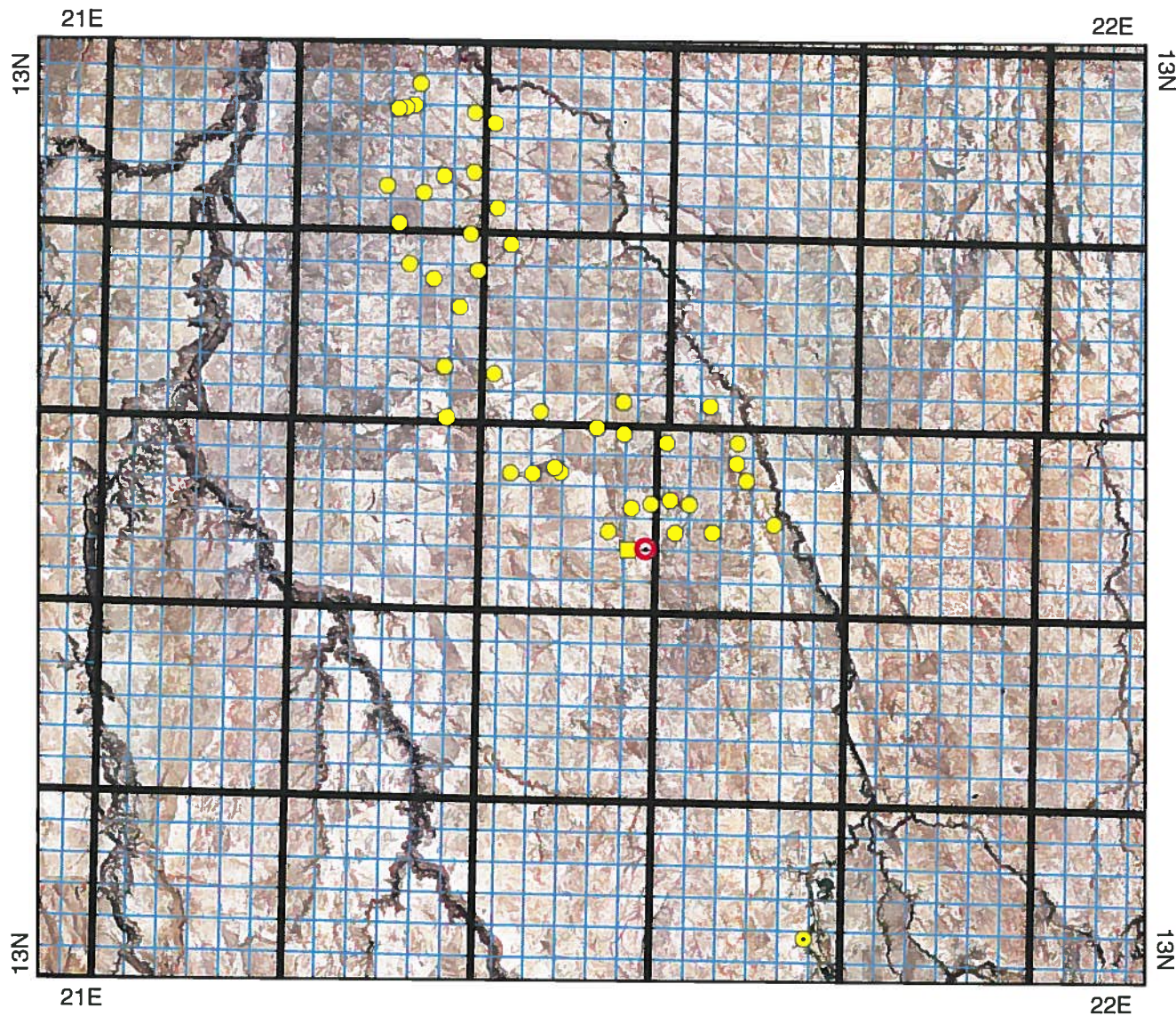
6-18-2013

Reviewer

Date

State of Idaho
Department of Water Resources
Field Exam Map
51-12983

This map depicts the place of use boundary for this water right FOR THE VARIOUS COMPONENTS at the time of this field exam and is attached to the approval document solely for illustrative purposes.



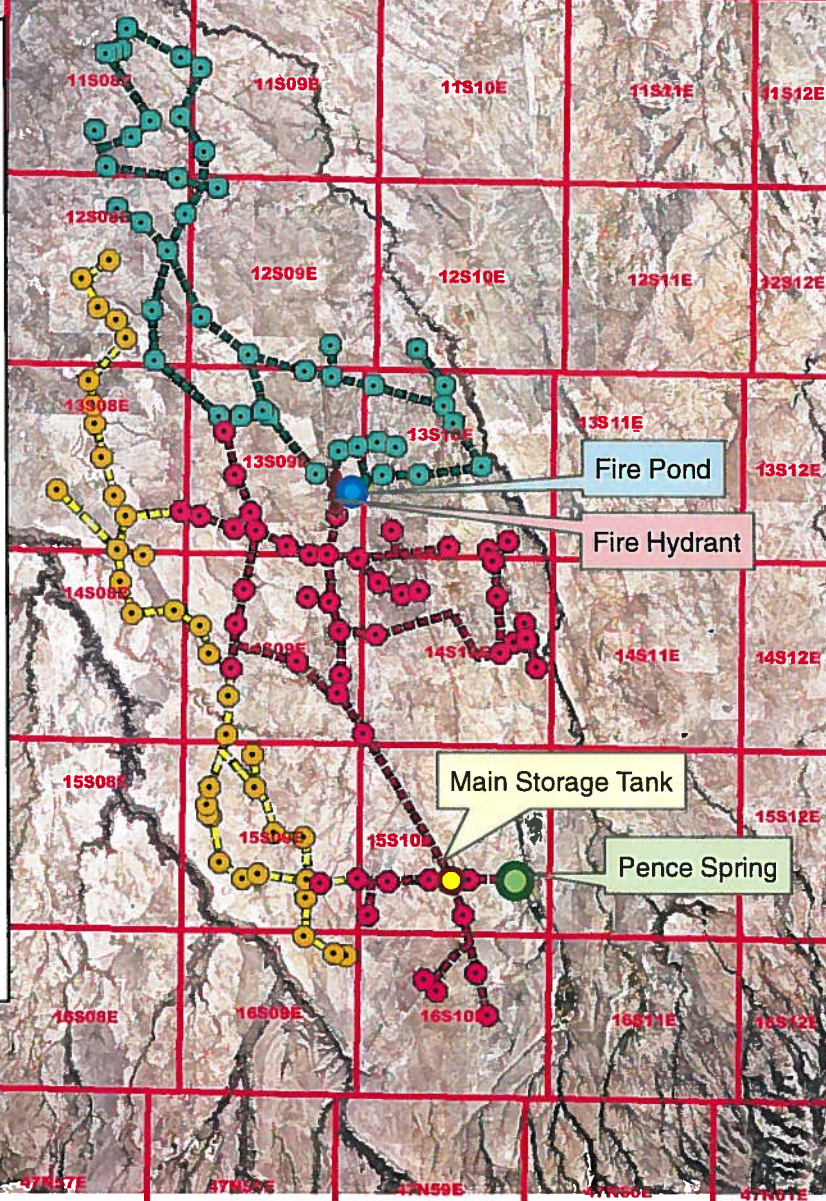
0 3.5 7 14 Miles

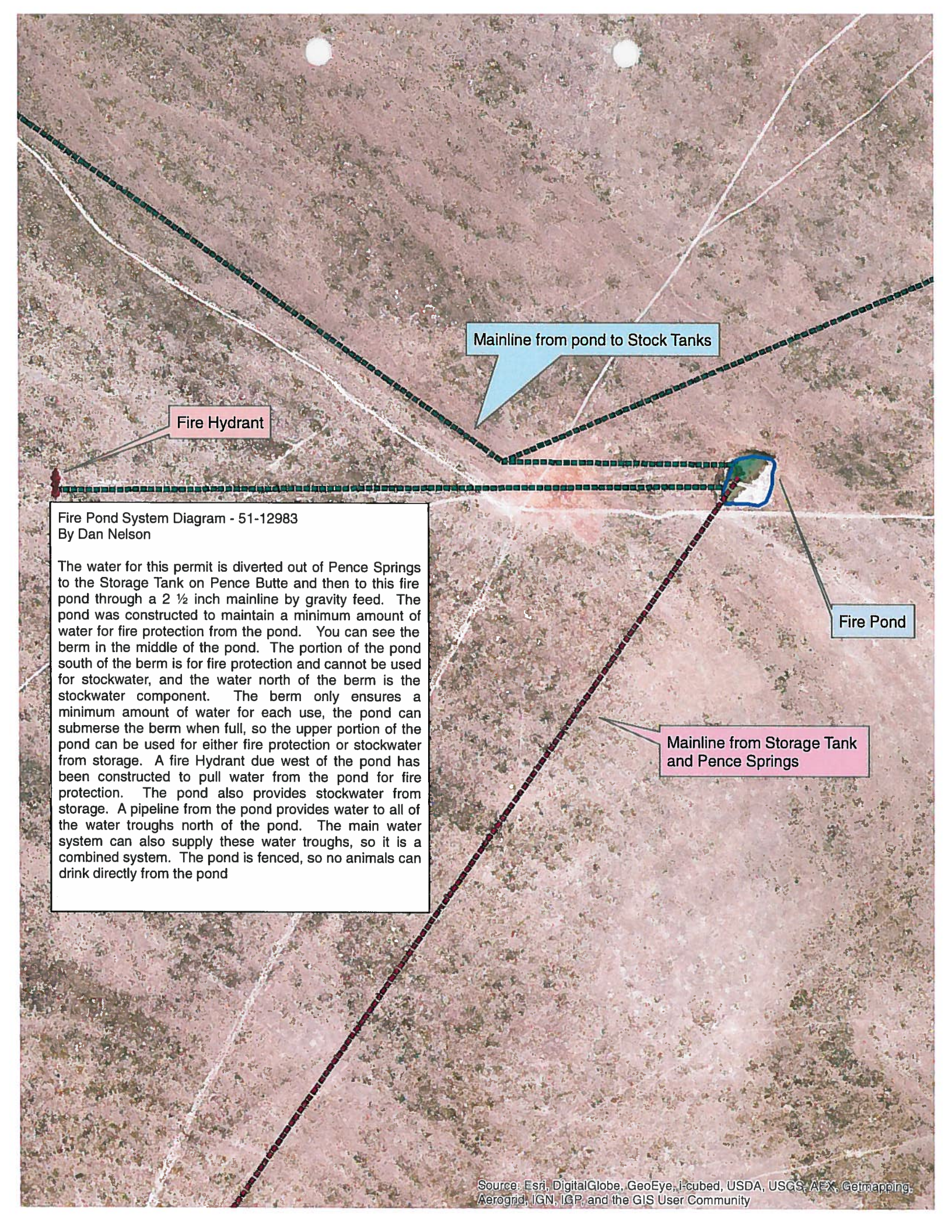
-  Townships
-  PLS Sections
-  STOCKWATER FROM STORAGE
-  FIRE PROTECTION FROM STORAGE
-  FIRE PROTECTION STORAGE AND STOCKWATER STORAGE
-  POINT OF DIVERSION



Main System Diagram - 51-12983
By Dan Nelson

The water for this permit is diverted out of Pence Springs by a 3 Hp pump. Theoretical calculations suggest that the pump can only divert 0.05 cfs of water. The water diverted from the spring is transported to a storage tank on top of Pence Butte. Pence Butte is the tallest point of this entire area with an elevation of 5696 feet. The water from the Main Storage tank is gravity fed to approximately 126 stockwater tanks and ponds within a 17 by 34 square mile area. The cattle are moved from area to area, so the water is only delivered to a few of these stockwater troughs at any one time. The unused water tanks are left dry until needed. The water from the main storage tank fills the Fire Pond or the storage component for this permit. The pond was constructed to maintain a minimum amount of water for fire protection from the pond. A fire Hydrant has been constructed that pulls water from the pond for fire protection. The pond also provides stockwater from storage. A pipeline from the pond provides water to all of the water troughs north of the pond. The main water system can also supply these water troughs, so it is a combined system. The pond is fenced, so no animals can drink directly from the pond.



An aerial photograph of a dry, reddish-brown landscape. A green dashed line, representing a mainline, runs from a small pond in the upper right towards the left. A red dashed line runs from the bottom left towards the pond. A red fire hydrant is marked on the left. A blue rectangular area is labeled 'Fire Pond'.

Fire Hydrant

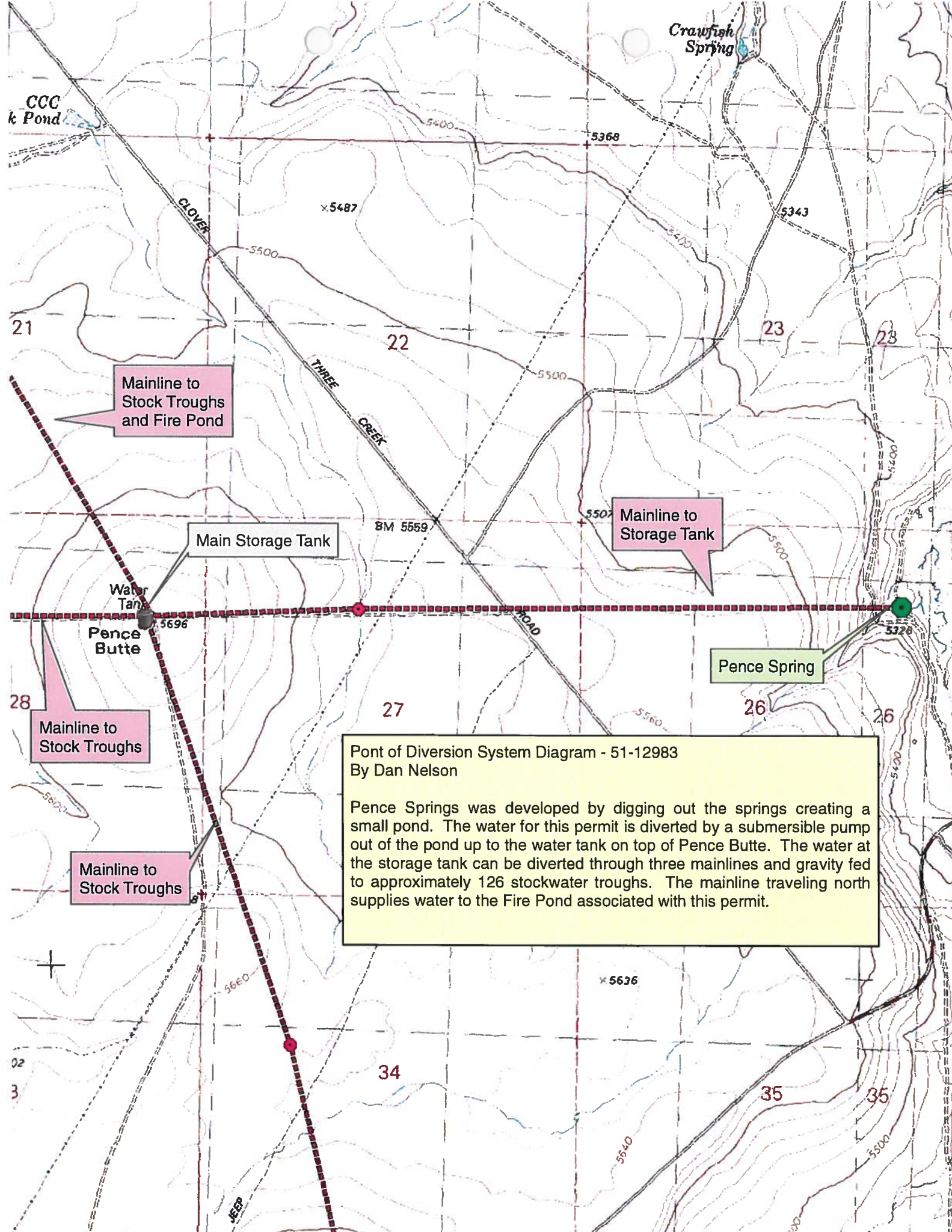
Mainline from pond to Stock Tanks

Fire Pond System Diagram - 51-12983
By Dan Nelson

The water for this permit is diverted out of Pence Springs to the Storage Tank on Pence Butte and then to this fire pond through a 2 ½ inch mainline by gravity feed. The pond was constructed to maintain a minimum amount of water for fire protection from the pond. You can see the berm in the middle of the pond. The portion of the pond south of the berm is for fire protection and cannot be used for stockwater, and the water north of the berm is the stockwater component. The berm only ensures a minimum amount of water for each use, the pond can submerge the berm when full, so the upper portion of the pond can be used for either fire protection or stockwater from storage. A fire Hydrant due west of the pond has been constructed to pull water from the pond for fire protection. The pond also provides stockwater from storage. A pipeline from the pond provides water to all of the water troughs north of the pond. The main water system can also supply these water troughs, so it is a combined system. The pond is fenced, so no animals can drink directly from the pond

Fire Pond

Mainline from Storage Tank and Pence Springs



Pont of Diversion System Diagram - 51-12983
By Dan Nelson

Pence Springs was developed by digging out the springs creating a small pond. The water for this permit is diverted by a submersible pump out of the pond up to the water tank on top of Pence Butte. The water at the storage tank can be diverted through three mainlines and gravity fed to approximately 126 stockwater troughs. The mainline traveling north supplies water to the Fire Pond associated with this permit.

TOTAL STORAGE

FILE NUMBER	51-12983
REVIEWER	Dan Nelson
DATE	6/14/2013

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond

Surface Area (in Acres)	1	"Surface Area" depicts the actual surface area of the pond measured, determined by ArcMap, or estimated.
Average Pond Depth (in feet)	5	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated.
Pond Capacity (in acre feet)	5	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth.

Volume Needed Above Initial Fill to Fufill From Storage Needs- "Multiple Fills" (in acre feet)	0	The "Volume Needed Above Initial Fill" is the acre-feet of water required to meet a <i>from storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed). PLEASE NOTE: You must have a "From Storage" componet exceeding the intial fill on the permit to include a volume in this space.
Estimated Seepage Loss (in acre feet)	1.1	The "Estimated Seepage Loss" is automatically is automatically carried over from the Seepage Loss Sheet
Estimated Evaporation Loss (in acre feet)	2.6	The "Estimated Evaporation Loss" is automatically is automatically carried over from the Evaporation Loss Sheet
Total Volume Required (in acre feet)	8.7	"The Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.

Flow Rate Into Pond (in cfs)	0.05	The "Flow Rate" Into the Pond depicts the actual flow either measured or estimated into the pond.
Highest Daily Evaporation Rate From Evaporation Tab. (in mm/day)	5.26	To determine the "Highest Daily Evaporation Rate" go the the Evaporation Loss Sheet and enter in the highest number recorded in the Precipitation Deficit table.
Maximum Required Daily Maintenance Volume (in acre feet per day)	0.02	"Maximum Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year, and is caluated by adding the highest daily evaporation loss to the average daily seepage loss in acre feet. The average daily seepage loss is calculated by dividing the "Estimated Seepage Loss" by 365 days. This is acceptable, since the seepage rate shouldn't vary throughout the season unless the pond completely freezes over during the winter months. The highest daily evaporation loss is calculated by multiplying the Highest Daily Evaporation Rate by the 304.8 conversion factor and multiplying this number by the pond surface area to attain a combined daily acre feet requirement.
Minimum Maintenance Flow (in cfs)	0.01	The "Mininum Maintenance Flow" is the minimum amount of flow required to maintain the level of the pond. This number is determine by dividing the "Daily Required Maintenance Volume" by 1.9835. This flow can be used to determine if the flow rate into the pond is adequate to maintain the pond level.
Days Required to Fill the Pond	63	The "Days Required to Fill the Pond" is calculated by dividing the "Pond Capacity" by the "Flow Rate" minus "Minimum Maintenance Flow" multiplied by 1.9835. This section will assist you in determining if the flow rate being diverted to the pond is adequate to fill the pond while maintaining the pond level. The length of time to fill the pond will help determine if the flow rate is adequate for the size of pond being proposed.

Evaporation Loss Calculation

FILE NUMBER	Pond 1
REVIEWER	Dan Nelson
DATE	3/6/2013

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the evaporation losses required for a pond.

The acronyms used on the Kimberly Research Center website are defined below:

P = Precipitation

ET= Evapotranspiration

P_d = Precipitation deficit

P_d =ET-P

ABOUT THIS SPREADSHEET

To ascertain the evaporation from a pond, you will need to go to the Kimberley Research Center website. The link is found below. This web site provides the Precipitation Deficit for the area where the pond is located. The Precipitation Deficit is the total amount of free pan evaporation minus the precipitation for a given area, which gives the total amount of evaporative losses incurred by the pond. There are several weather sites that are used, and the entire state is pretty much covered. You can find the nearest site using ArcMap. The shape file containing the sites can be found at X:\Spatial\Climate\ETIdahostations.shp.

Found at: <http://www.kimberly.uidaho.edu/ETIdaho/online.php>

Precipitation Deficit

Station: Twin Falls 2 NNE (NWS -- 109294)

Month	mm/day ¹	Days per month	mm/Month
Jan	0.06	31	1.86
Feb	0.59	28	16.52
March	1.34	31	41.54
April	2.42	30	72.60
May	2.78	31	86.18
June	3.71	30	111.30
July	5.26	31	163.06
August	4.76	31	147.56
September	3.00	30	90.00
October	1.97	31	61.07
November	0.39	30	11.70
December	0.12	31	3.72

PLEASE NOTE: We cannot use the season average, because there are several areas in Northern Idaho with a negative Precipitation Deficit. Therefore, we must enter each monthly deficit, and enter in a zero (0) for each negative month. The reason for this is that precipitation can only offset evaporation to the extent of the evaporation.

Please enter the daily average Precipitation Deficit as shown in the example below.

¹Negative monthly mean values should be entered in the above table as "0".

Total mm/year = 807.11

P_d = Convert to (mm/yr) ÷ (convert Surface area of pond, in acres.

807.11 304.8 1

(conversion factor)

P_d = 2.6 AFA

SEEPAGE CALCULATIONS

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage required for a pond.

FILE NUMBER	93-7270
REVIEWER	Dan Nelson
DATE	6/10/2013

INPUTS

SQ FT. Calculator Pond Surface area in acres
1

POND SURFACE AREA (SQFT)	43560
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SUGGESTED SEEPAGE RATE (FT/DAY)	0.0030
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Use the table below to find the "SUGGESTED SEEPAGE RATES".

FORMULA: (Surface Area X Seepage Rate) / 7.48 = Gallons Per Day loss

CONVERT TO GPD	977	GPD
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TOTAL SEEPAGE LOSS (AFA)	1.1	AFA
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SUGGESTED SEEPAGE RATES FOR DIFFERENT SOIL TYPES:

SM (silty sand, sand silt mixtures) = 0.20 ft per day

ML (inorganic silts - very fine sands, silty, or clayey fine sands) = 0.016 ft per day

SC (clayey sands, sand clay mixtures) = 0.007 ft per day

CL (Low to medium plasticity clays) = 0.003 ft per day

CH (high plasticity clays) = 0.0003 ft per day

LINED PONDS (liners can be chemical, fabric, or bentonite) = 0 ft per day

PLEASE NOTE: Seepage Rates taken from Page 16 of Seepage from Fish Ponds, Bulletin 599, August 1989 Alabama Agricultural experiment Station, Auburn University, Auburn University Alabama. If you don't know the soil type, please refer to the map provided at P:/MCiscell/Soils Soils.lyr. Use "0" if the ponds intersect the water table.

Notes:

The soil is a Bonneville Silt Loam. Used a seepage rate of 0.016 ft/Day.

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 51-12983
 Examiner: Dan Nelson
 Date of Field Exam: 10/22/2012

	Min GPS Measured Head	Max GPS Measured Head	Topo map head	Amount Needed to Attain 0.23 cfs
P/D No.:				
PUMP HORSEPOWER	3	3	3	3
BOOSTER HORSEPOWER	0	0	0	0
PUMPING LEVEL	0	0	0	0
DISCHARGE PRESSURE	48	134	165	32
FRICTION	0	8	8	8
RATE OF FLOW (cfs)	0.17	0.06	0.05	0.23
(gpm)	74.8	26.1	21.3	101.2

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.

Examiners Notes:

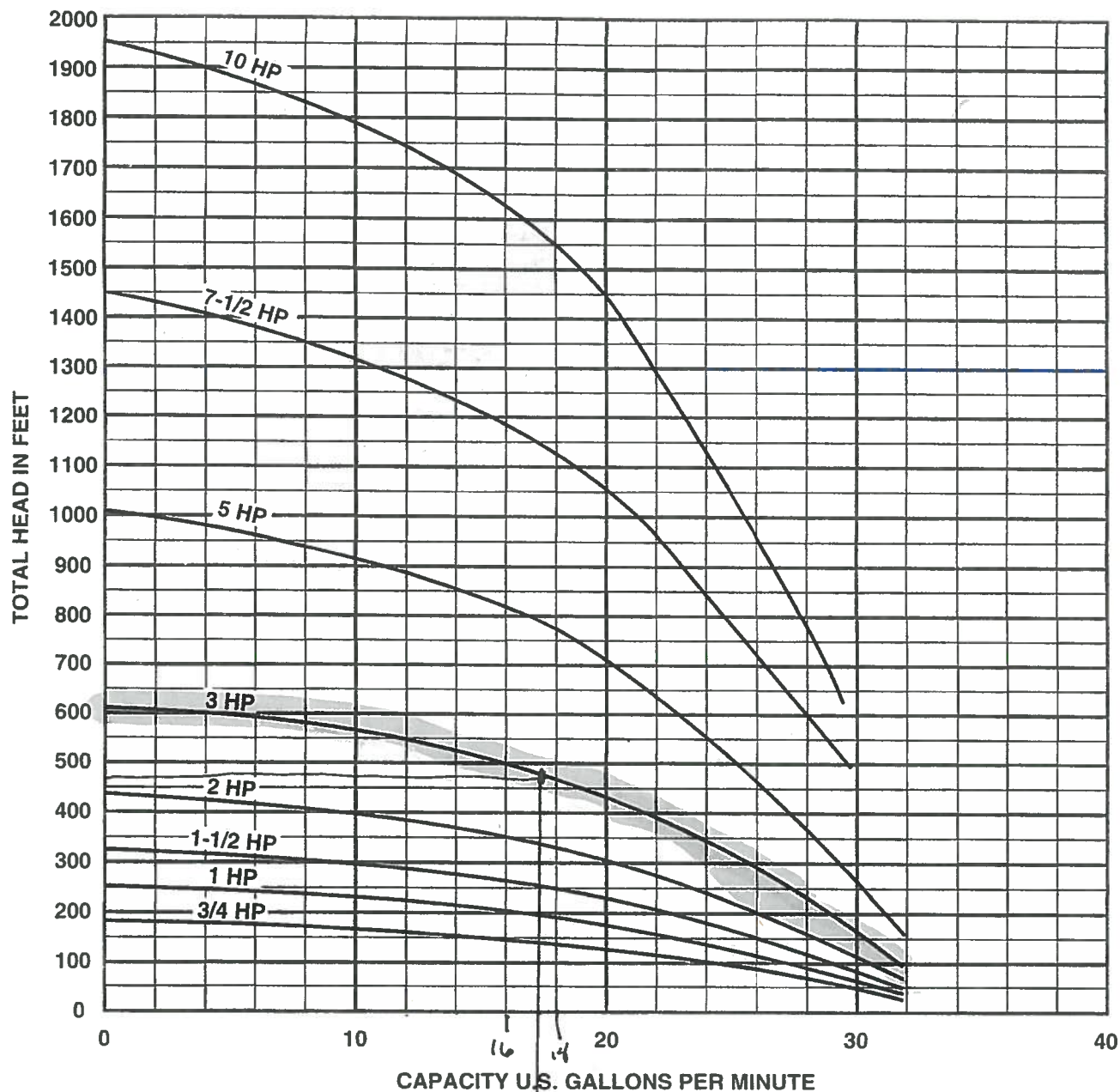
The pump associated with this permit is a 3 Hp submersible pump that diverts water from a dug pond at the spring to a holding tank on a nearby hill top. According to Topographical maps available to the Department, the holding tank is located at 5696 and the pond is located at 5326 ft for a difference of 370 feet. The water is diverted into the top of the 12 ft tall tank for a total of 382 elevation increase from the pump or feet head against the pump. Whereas the pump is submerged in the pond, there is no lift on the pump only head against the pump. Since there is no lift, the total dynamic head is equal to the head against the pump. The pressure against the pump was determined by dividing the feet of head against the pump of 383 feet by 2.31 for a total of 165 psi. A Global Sattelite Positioning (GPS) reading was also taken at both locations. The GPS unit used was not a survey grade GPS unit, so the error in the elevation can be as much as 3 times the error. Therefore the elevation according to the GPS unit would be between 99.02 ft and 297.06 ft. You would need to add on the hieght of the 12 ft storage tank on to these estimates. The pressures for the GPS reading were calculated the same as the topo map elevation. I also did a calculation to determine what pressure would be required to attain the 0.23 cfs requested in the permit. I found that no more than 32 psi or 74 feet of head could be placed against the 3 Hp pump. It is highly unlikely that a 3Hp pump could divert the 0.23 cfs requested by the permit. In water right transfer 70890 for the same system, a pump curve was entered into evidence during a hearing protesting the transfer for a 3 Hp pump. The pump curve shows a diversion rate between 17 to 22 gpm, which is very similar to the theoretical amount calculated using the topo maps. Therefore, I have to recommend the diversion rate calculated by using the Topo maps of 0.05 cfs or 21 gpm.

Built on
Commitment.

15, 20, and 30 GPM Submersible Pumps

FROM TRANSFER
70890

PUMP PERFORMANCE - 20 GPM



WHEN NEW
17-17.5 GPM

200 psi = 462 FT

SCANNED

JUL 27 2009

Tested and rated in accordance with Water Systems Council standards.

NOTE: Pumps installed with a CON-AIRE® tank require a 100 PSI relief valve. Pumps installed with a conventional tank require a 75 PSI relief valve. Relief valve must be capable of relieving entire flow of pump at relief pressure.

EXHIBIT

4

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 9/22/2012
FILE NUMBER 51-12983



The photo above shows Pence Springs. Pence Springs is basically, a small bog/pond that has been developed to provide stockwater. The power pole in the forefront belongs to the 3 Hp pump that delivers water to the stockwater system.

The first picture below shows the piping and valves coming out of the Pence Spring pump. The water from this point travels uphill to the top of Pence Butte. At the top of Pence Butte, is the storage tank shown on the left below. This storage tank is 12 feet tall and approximately 19 ft in diameter. This tank holds approximately 3,500 gallons of water. The water tank is the highest point in this area, so all the troughs and the Fire Pond are gravity fed from this point.



PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 9/22/2012
FILE NUMBER 51-12983



The photo above shows the Fire Pond. You can see the middle berm that ensures a minimum amount of water is left in the fire protection side of the pond. The pond can and has been filled above the berm, so there is a maximum volume of the pond.

The second picture shows the point where the water from the Main Storage tank and mainlines diverts into the stockwater side of the pond. This is basically just an open pipe that diverts directly into the pond.

The third picture shows the screen used to send water on the fire protection side to the fire hydrant. This is a large screen that allows all of the water from the pond to be diverted.

The final picture shows the fire hydrant. This hydrant is on its own mainline, and it is the main way to divert water from the pond. A hose can be placed directly into the pond if needed, but that requires opening the locked gate into the pond.