

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 37-20550

Exam Date: 8/9/2012

1. Current Owner: BLACK BUTTE HILLS LLC
C/O GREGORY VIK
PO BOX 1607
BELLEVUE WA 98009
(425) 460-2542

2. Accompanied by: Ron Gonsales.

Address: 338 S. 600 W, Corral, ID 83322

Phone No: (208) 764-3904

Relationship to Permit Holder: Manager.

Email: camascreek@hughes.net

3. **SOURCE**

TRIBUTARY

GROUND WATER

B. OVERLAP REVIEW

1. **Other water rights with the same place of use:** There are no other water rights that overlap the same stockwater storage ponds. There are other stockwater storage ponds in some of the same quarter-quarters, but they are covered under other water rights (37-8779, 37-8778, 37-8781, 37-8780), and then 37-20551 for stockwater use from stock tanks/troughs.

2. **Other water rights with the same point of diversion:** Site #1 on the beneficial use field examination (the Groundwater Collector) overlaps with water right 37-20551 (stockwater use). The overflow from the Groundwater Collector open discharges into Site #1 Stockwater Storage pond.

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER L1 NW1/4NW1/4	Sec. 19, Twp 02S,	Rge 16E, B.M.	CAMAS County
GROUND WATER SW1/4NE1/4	Sec. 13, Twp 02S,	Rge 15E, B.M.	CAMAS County
GROUND WATER SE1/4NE1/4	Sec. 13, Twp 02S,	Rge 15E, B.M.	CAMAS County
GROUND WATER L4 SW1/4SW1/4	Sec. 18, Twp 02S,	Rge 16E, B.M.	CAMAS County
GROUND WATER L4 SW1/4SW1/4	Sec. 18, Twp 02S,	Rge 16E, B.M.	CAMAS County
GROUND WATER L1 NW1/4NW1/4	Sec. 19, Twp 02S,	Rge 16E, B.M.	CAMAS County
GROUND WATER NE1/4SE1/4	Sec. 13, Twp 02S,	Rge 15E, B.M.	CAMAS County
GROUND WATER NE1/4SE1/4	Sec. 13, Twp 02S,	Rge 15E, B.M.	CAMAS County
GROUND WATER NW1/4SE1/4	Sec. 13, Twp 02S,	Rge 15E, B.M.	CAMAS County
GROUND WATER L3 NW1/4SW1/4	Sec. 18, Twp 02S,	Rge 16E, B.M.	CAMAS County
GROUND WATER L3 NW1/4SW1/4	Sec. 18, Twp 02S,	Rge 16E, B.M.	CAMAS County
GROUND WATER L4 SW1/4SW1/4	Sec. 18, Twp 02S,	Rge 16E, B.M.	CAMAS County

Method of Determination: Garmin GPS Map 76S, ArcMap 2011 and esri Imagery

2.

PLACE OF USE: STOCKWATER 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	
02S	15E	13			X	X									X	X			
02S	16E	18									X	X	X						
												L 3	L 4						
02S	16E	19					X												
							L 1												

Method of Determination: Garmin GPS Map 76S, ArcMap 2011 and esri Imagery

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

☐ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

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

☐ Photo of Diversion and System Attached (field exam pictures were lost when computer crashed, and were not able to be retrieved; for this reason close ups of ArcMap 2011 imagery and field exam narrative are used). There is one picture included of the area showing where some of the PODs/POUs for 37-20550 is located, but this picture was taken while conducting another field exam, and this picture was a picture taken as an "indicator" for determining the actual location of that field exam.

4.

<u>Well or Diversion</u> <u>ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge</u> <u>Size</u>
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Site #1 is a Groundwater Collector tank with the overflow (gravity flowing) thru a buried pipe and open discharging to Site #1 Stockwater Storage pond.

Site #2 thru Site #12, the Groundwater POD is designated in the middle of the stockwater storage pond since the pond was dug down and developed around the Groundwater source.

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

D. FLOW MEASUREMENTS

1.

<u>Measurement</u> <u>Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
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None

3. Measurements: None

E. FLOW CALCULATIONS

Measured Method:

None. There is no flow since the POD/groundwater source is the center of the stockwater storage ponds.

F. VOLUME CALCULATIONS

1. Volume Calculations for Stockwater Storage ponds:

(1.1 acre total surface area X 3 ft average depth) + 0.1 seepage loss + 2.3 evaporation loss = 5.7 af
(spreadsheet total was 5.8 af)

2. Volume Calculations for Other Uses:

Vir = (1038 cattle X 12 gpd X 365 days)/325,850 = 13.4 af

RECOMMEND:

Stockwater Storage for 1.1 acre total surface area, for 1038 head cattle, for 5.0 af (as permitted)

G. NARRATIVE/REMARKS/COMMENTS

Pictures of the system taken at the time of the field examination, were lost when my computer crashed and had to be rebuilt. Pictures from 8/9/2012 were not retrieved. There were some "indicator pictures," that were added to this field exam (dated 9/19/2012) which were taken to determine actual location while conducting another field examination. The pictures that were added to this exam are for water right 37-20550, and demonstrate parts of the system.

Each of the stockwater storage ponds is designated by a Site number to be able to distinguish their location easier. All of the storage ponds are an average depth of 3 ft, with some of them drying out by the end of July. They are all groundwater sources, with some of them being located near the Unnamed Stream, but not being on-stream, so evaporation and seepage loss will be involved in the calculation for maintaining the level of the ponds. Site #1 is maintained by the overflow from the Groundwater Collector/POD that is also shared with water right 37-20551. All other sites do not overlap with any other water rights. There are a total of 12 sites (stockwater storage ponds and PODs). Beneficial use is for Stockwater Storage for 1038 head cattle. All property where the PODs and POU's are located is owned by Black Butte Hills LLC.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
STOCKWATER STORAGE	01/01 to 12/31		5.00 AF
<u>Totals:</u>			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

*Some quarter-quarters had 2+ stockwater storage ponds within the same quarter-quarter, so the PLS for that quarter-quarter had to be shown to reflect that there are 2+ different PODs.

**Some POU's straddled the quarter-quarter line, so both quarter-quarters had to be included.

No additional stockwater storage ponds were added to this system, that were not already designated on the topo map drawing submitted by Brockway Engineering.

I. AUTHENTICATION

Field Examiner's Name Judy Hemerway Date 2/12/2014

TOTAL STORAGE

FILE NUMBER	37-20550
REVIEWER	S. Hemenway
DATE	2/12/2014

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)	1.1	"Surface Area" depicts the actual surface area of the pond measured, determined by ArcMap, or estimated.
Average Pond Depth (in feet)	3	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated.
Pond Capacity (in acre feet)	3.3	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth.

Volume Needed Above Initial Fill to Fulfill 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)	0.1	The "Estimated Seepage Loss" is automatically is automatically carried over from the Seepage Loss Sheet
Estimated Evaporation Loss (in acre feet)	2.3	The "Estimated Evaporation Loss" is automatically is automatically carried over from the Evaporation Loss Sheet
Total Volume Required (in acre feet)	5.8	"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)	0.00	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)	4.31	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	-208	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.
Days Required to Fill the Pond at 13,000 gallons per day	137	The "Days Required to Fill the Pond at 13,000 gallons per day" is calculated converting the "Pond Capacity" and the "Maximum Daily Maintenance Volume" to gallons. The "Pond Capacity is then divided by 13,000 gallons minus the "Maximum Daily Maintenance Volume" in gallons to determine the number of days to fill pond.

estimate the total annual seepage losses from a pond.

FILE NUMBER	37-20550
REVIEWER	Sandy Hemenway
DATE	2/12/2014

INPUTS

SQ. FT. Calculator Pond Surface area in acres
1.1

POND SURFACE AREA (SQ. FT.)	47916
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SUGGESTED SEEPAGE RATE (FT/DAY)	0.0003
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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	108	GPD
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TOTAL SEEPAGE LOSS (AFA)	0.1	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
Ponds Intercepting Groundwater (excavated ponds filled with shallow Ground Water) = 0 ft per day

Evaporation Loss Calculation

FILE NUMBER	37-20550
REVIEWER	S. Hemenway
DATE	2/12/2014

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the annual evaporation losses from 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

USING 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. IDWR staff 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	0.00	31	0.00
Feb	0.00	28	0.00
March	0.42	31	13.02
April	1.82	30	54.60
May	2.92	31	90.52
June	3.63	30	108.90
July	4.31	31	133.61
August	3.73	31	115.63
September	2.55	30	76.50
October	1.76	31	54.56
November	0.00	30	0.00
December	0.00	31	0.00

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 = 647.34

$[(\text{mm/yr}) \div (\text{convert to feet})] \times (\text{Surface area of pond, in acres}) = \text{Evaporation Loss in Acre Feet}$

(647.34) ÷ 304.8) X 1.10 = 2.3 AFA

ET_{Idaho} 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison at kimberly dot uidaho dot edu Copyright 2010, University of Idaho.

Fairfield (NWS --103108)

Statistics based on thirty

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Open water - shallow systems (ponds, streams)														
Precipitation Deficit (Click here for a graph)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b
Mean	mm/day												mm	
Monthly ^c	-1.43	-0.78	0.42	1.82	2.92	3.63	4.31	3.73	2.55	1.76	-0.83	-1.35	515	0
15-Day Moving Average ^d	-1.61	-1.10	0.39	1.90	2.85	3.64	4.41	3.64	2.43	1.73	-0.89	-1.39		
7-Day Moving Average ^e	-1.54	-0.93	0.41	1.85	2.88	3.61	4.38	3.72	2.47	1.72	-0.90	-1.39		
3-Day Moving Average ^f	-1.46	-0.78	0.42	1.84	2.91	3.63	4.32	3.73	2.52	1.75	-0.86	-1.34		
Standard Deviation	mm/day												mm	
Monthly	1.92	1.19	1.17	0.86	1.50	0.97	0.97	1.42	1.13	1.13	1.37	2.22	127	0
15-Day Moving Average	2.16	1.77	1.16	1.07	1.60	1.32	0.84	1.44	1.49	1.10	1.69	2.22		
7-Day Moving Average	2.80	2.48	1.52	1.60	1.99	1.84	1.24	1.63	1.85	1.62	2.19	2.86		
3-Day Moving Average	3.66	3.05	2.14	2.23	2.51	2.40	1.89	2.04	2.38	2.06	2.97	3.58		
20% Exceedance	mm/day												mm	
Monthly	-0.37	0.22	0.83	2.47	3.55	4.42	4.87	4.43	3.47	2.44	0.08	-0.36	594	0
15-Day Moving Average	0.59	0.93	1.67	3.34	4.65	5.15	5.33	4.77	4.00	2.94	1.06	0.52		
7-Day Moving Average	0.87	1.29	1.97	3.90	5.31	5.61	5.52	5.09	4.43	3.47	1.62	0.78		
3-Day Moving Average	0.97	1.50	2.47	4.77	5.76	6.05	5.82	5.36	4.68	3.94	2.03	1.04		

80% Exceedance	mm/day												mm		
Monthly	-2.40	-1.88	-0.28	0.88	2.31	2.67	3.72	3.42	1.22	0.97	-2.18	-2.93	399	0	399
15-Day Moving Average	-4.62	-3.77	-1.45	0.40	1.55	1.10	3.02	2.28	0.11	0.39	-4.01	-4.57			
7-Day Moving Average	-9.10	-7.95	-3.51	2.43	-0.22	1.36	1.37	0.75	2.21	3.19	-6.50	-6.87			
3-Day Moving Average	17.29	12.45	-7.66	6.53	-3.78	4.86	2.29	-1.91	6.30	6.15	11.23	11.05			
Ave Highest P_{def}	mm/day												--		
15-Day Moving Average ^g	0.30	0.49	1.29	2.79	3.85	4.58	4.95	4.28	3.20	2.59	0.54	0.26			
7-Day Moving Average ^h	0.68	1.03	1.74	3.46	4.72	5.29	5.29	4.83	3.94	3.12	1.09	0.60			
3-Day Moving Average ⁱ	0.86	1.33	2.18	4.10	5.31	5.78	5.64	5.12	4.40	3.54	1.64	0.82			
Ave Lowest P_{def}	mm/day												--		
15-Day Moving Average ^g	-2.90	-1.98	-0.48	1.02	1.95	2.70	3.74	3.03	1.55	0.92	-2.00	-2.74			
7-Day Moving Average ^h	-5.47	-4.14	-1.59	0.52	0.48	1.14	2.61	2.01	0.29	0.38	-3.68	-4.99			
3-Day Moving Average ⁱ	10.32	-7.27	-4.09	3.22	-2.07	1.27	0.50	0.04	2.18	2.46	-6.79	-8.89			
Special normal distribution parameters for monthly, seasonal, and annual intervals													--		
Skew	-0.40	-0.71	-0.28	0.24	-0.61	0.44	0.30	-0.65	0.88	0.03	-0.46	-0.52	0.00	0.00	0.00
Kurtosis	1.03	3.40	0.90	2.43	1.86	2.66	0.83	1.53	2.81	0.62	3.16	1.53	3.21	0.00	3.21

^a Growing Season: This is usually the time from green up or planting in the spring to a killing frost or harvest in the fall. It is not applicable for entries without a growing season and will be blank.

^b Nongrowing Season: This is usually[†] the time from a killing frost or harvest in the fall to the of green up in the spring. It is not applicable for entries without a growing season.

^c Mean of the average daily value for month

^d Mean of the fourteen 15-day period averages contained in the month

^e Mean of the twenty three 7-day period averages contained in the month

^f Mean of the twenty seven 3-day period averages contained in the month

^g Mean of the highest/lowest 15-day period average in month

^h Mean of the highest/lowest 7-day period average in month

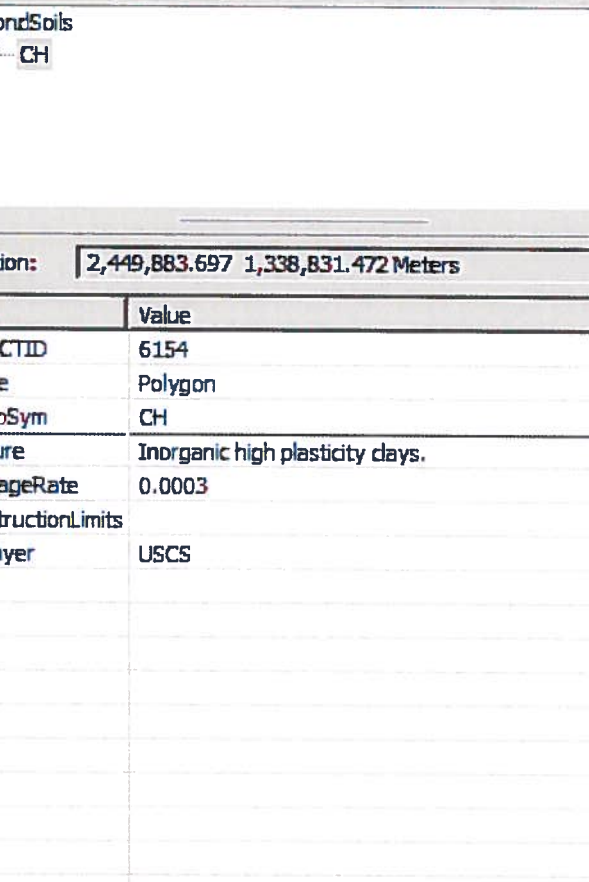
¹ Mean of the highest/lowest 3-day period average in month

This work and report were prepared by the University of Idaho Research and Extension Center at Kimberly, Idaho under contract with the Idaho Department of Water Resources. Work was supported by funding from IDWR and the Idaho Agricultural Experiment Station and Idaho Engineering Experiment Station. The authors gratefully acknowledge the long-term evapotranspiration data collection and long-standing advice provided by Dr. James L. Wright, USDA-ARS Kimberly (ret.), the more than two decades of high quality agricultural weather data collection by the U.S. Bureau of Reclamation AgriMet system, and the very long-standing, routine data collection by the hundreds of cooperative weather station volunteers across the state who, for more than one-hundred years, have faithfully observed daily air temperature and precipitation.

The citation for the evapotranspiration data used from this site should be: *Allen, Richard G. and Clarence W. Robison, 2009. Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho: Supplement updating the Time Series through December 2008, Research Technical Completion Report, Kimberly Research and Extension Center, University of Idaho, Moscow, ID.*

Questions regarding the data should be addressed to [Clarence W. Robison](#) or [Richard G. Allen](#), University of Idaho, Kimberly Research and Extension Center, 3793 North 3600 East, Kimberly, ID 83341. Telephone (208)-423-6610

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Identify

Identify from: PondSoils

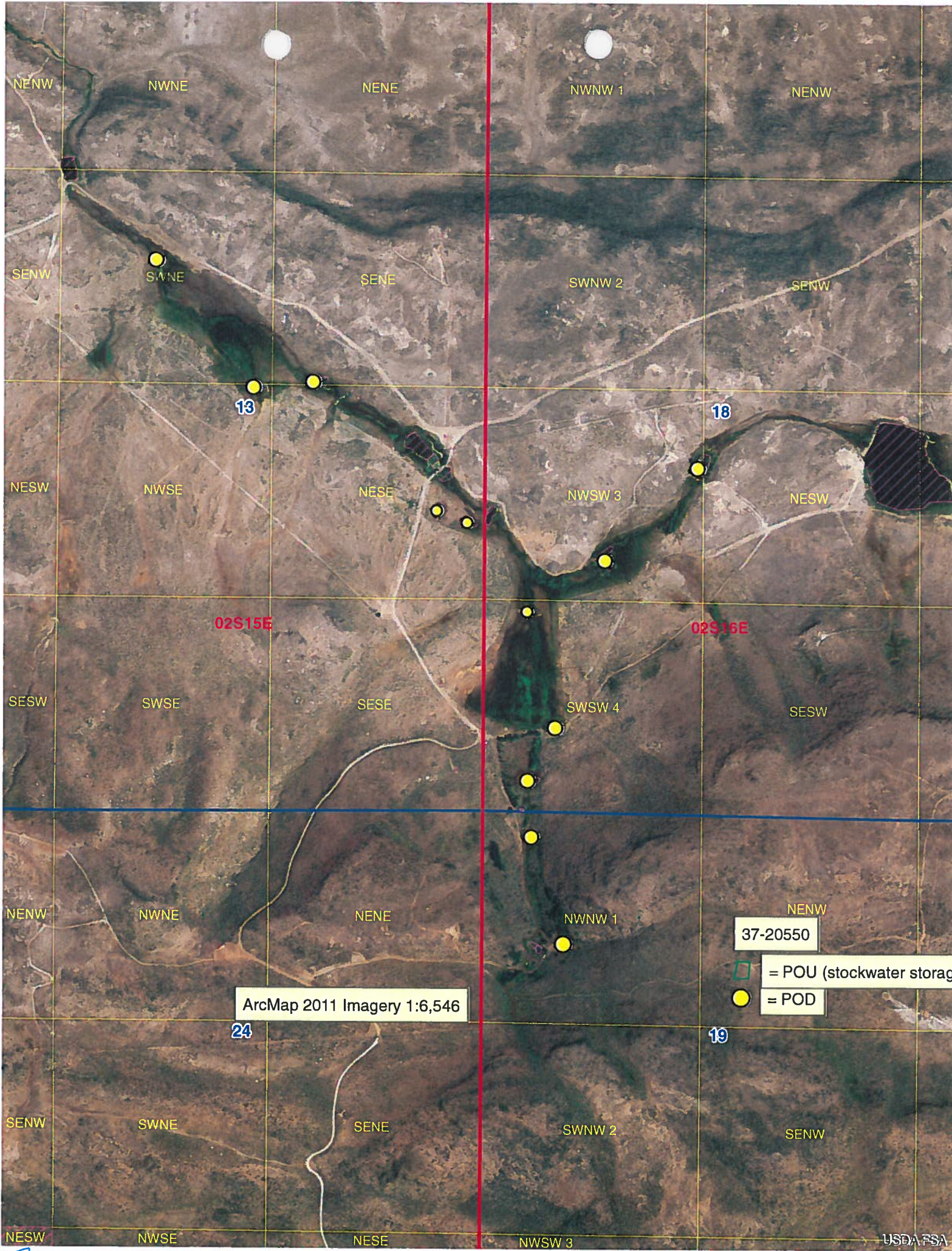
PondSoils

- CH

Location: 2,449,883.697 1,338,831.472 Meters

Field	Value
OBJECTID	6154
Shape	Polygon
GroupSym	CH
Texture	Inorganic high plasticity clays.
SeepageRate	0.0003
ConstructionLimits	
SoilLayer	USCS

Identified 1 feature



02S15E

02S16E

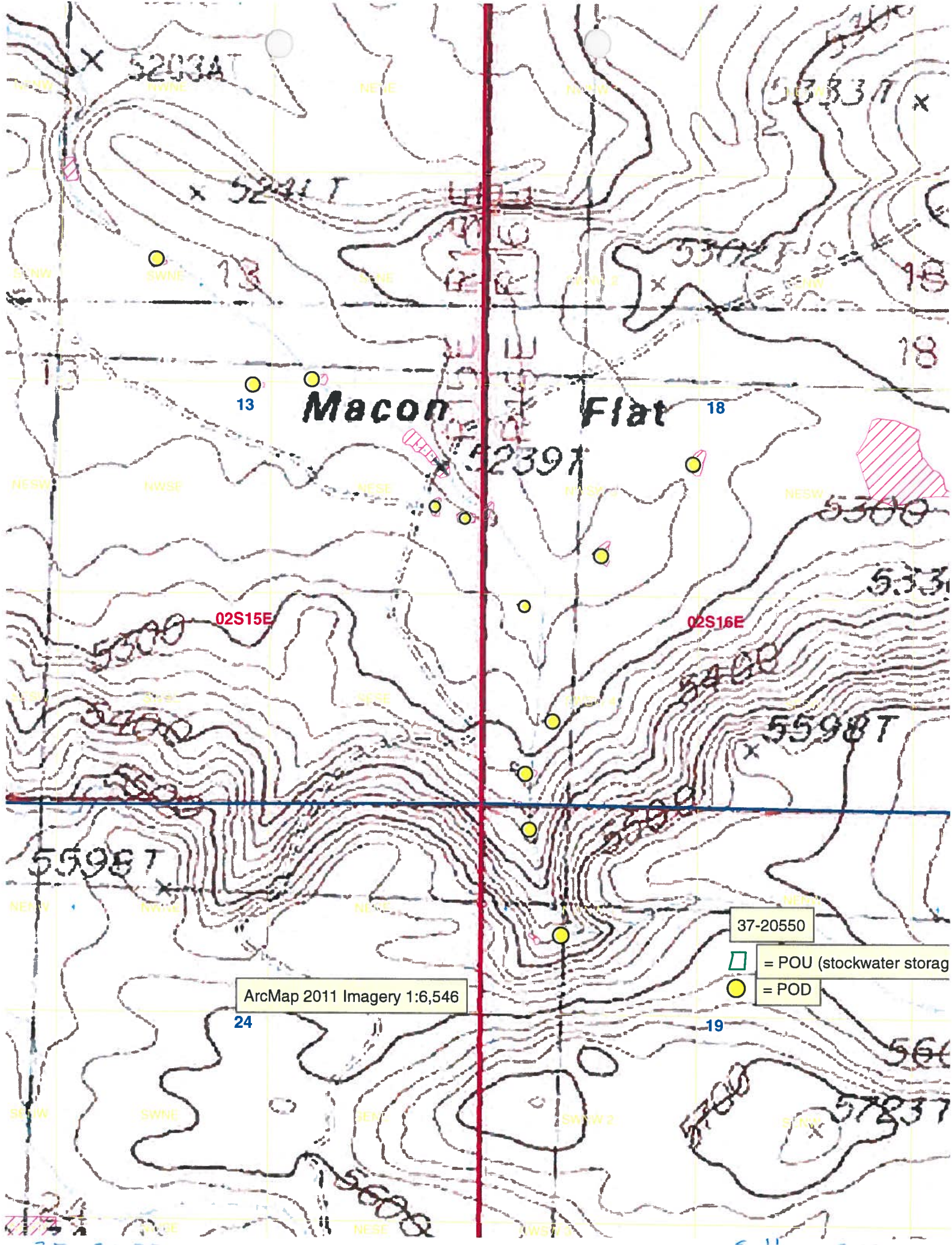
ArcMap 2011 Imagery 1:6,546

37-20550

□ = POU (stockwater storage)

● = POD

USDA FSA

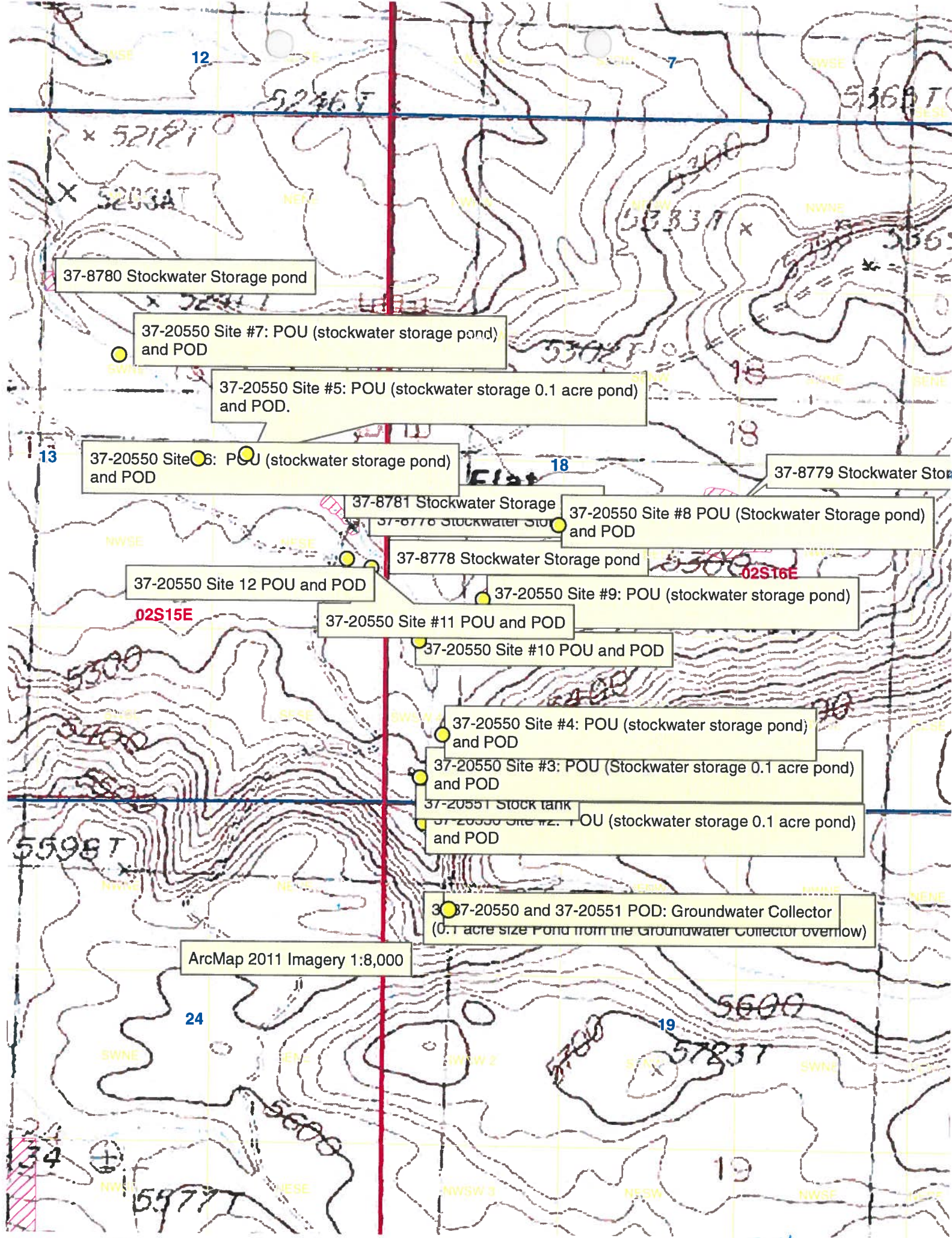


Macon Flat

ArcMap 2011 Imagery 1:6,546

37-20550

-  = POU (stockwater storage)
-  = POD



37-8780 Stockwater Storage pond

37-20550 Site #7: POU (stockwater storage pond) and POD

37-20550 Site #5: POU (stockwater storage 0.1 acre pond) and POD.

37-20550 Site #6: POU (stockwater storage pond) and POD

37-8779 Stockwater Storage pond

37-8781 Stockwater Storage pond

37-20550 Site #8 POU (Stockwater Storage pond) and POD

37-8778 Stockwater Storage pond

37-20550 Site 12 POU and POD

37-20550 Site #9: POU (stockwater storage pond)

37-20550 Site #11 POU and POD

37-20550 Site #10 POU and POD

37-20550 Site #4: POU (stockwater storage pond) and POD

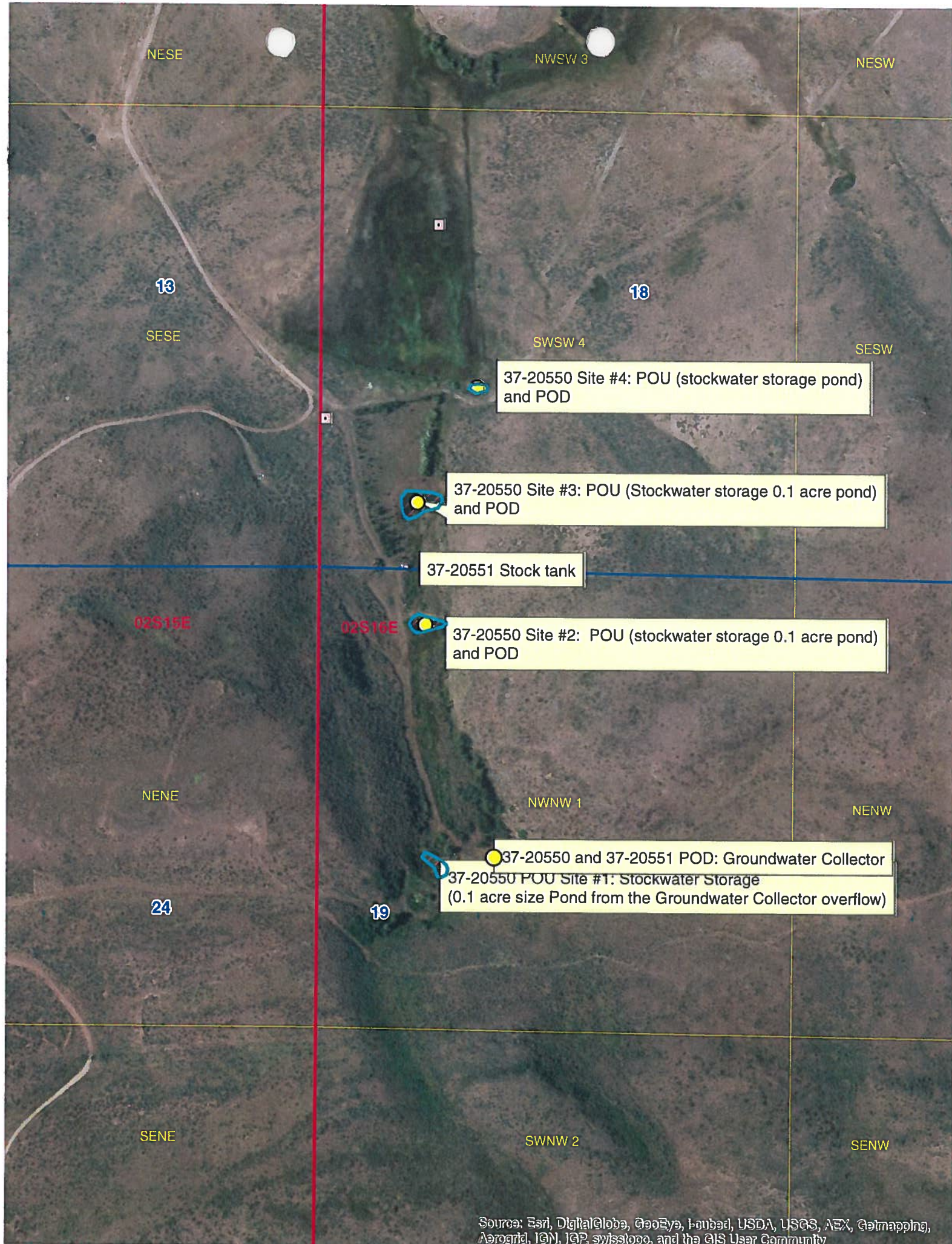
37-20550 Site #3: POU (Stockwater storage 0.1 acre pond) and POD

37-20551 Stock tank

37-20550 Site #2: POU (stockwater storage 0.1 acre pond) and POD

37-20550 and 37-20551 POD: Groundwater Collector (0.1 acre size Pond from the Groundwater Collector overflow)

ArcMap 2011 Imagery 1:8,000





37-20550 Site #4: POU (stockwater storage pond) and POD

37-20550 Site #3: POU (Stockwater storage 0.1 acre pond) and POD

37-20551 Stock tank

37-20550 Site #2: POU (stockwater storage 0.1 acre pond) and POD

37-20550 and 37-20551 POD: Groundwater Collector
37-20550 POU Site #1: Stockwater Storage
(0.1 acre size Pond from the Groundwater Collector overflow)

37-20550 Site #2: POU (stockwater storage 0.1 acre pond) and POD

esri Imagery 1:1,000

37-20550 Site #1
and 37-20551 POD: Groundwater Collector

37-20550 POU Site #1: Stockwater Storage
(0.1 acre size Pond from the Groundwater Collector overflow)

24

N:VNW 1

19

02S18E

SESE
13

SWSW 4

18



37-20550 Site #3: POU (Stockwater storage 0.1 acre pond)
and POD

37-20551 stock tank

02S16E



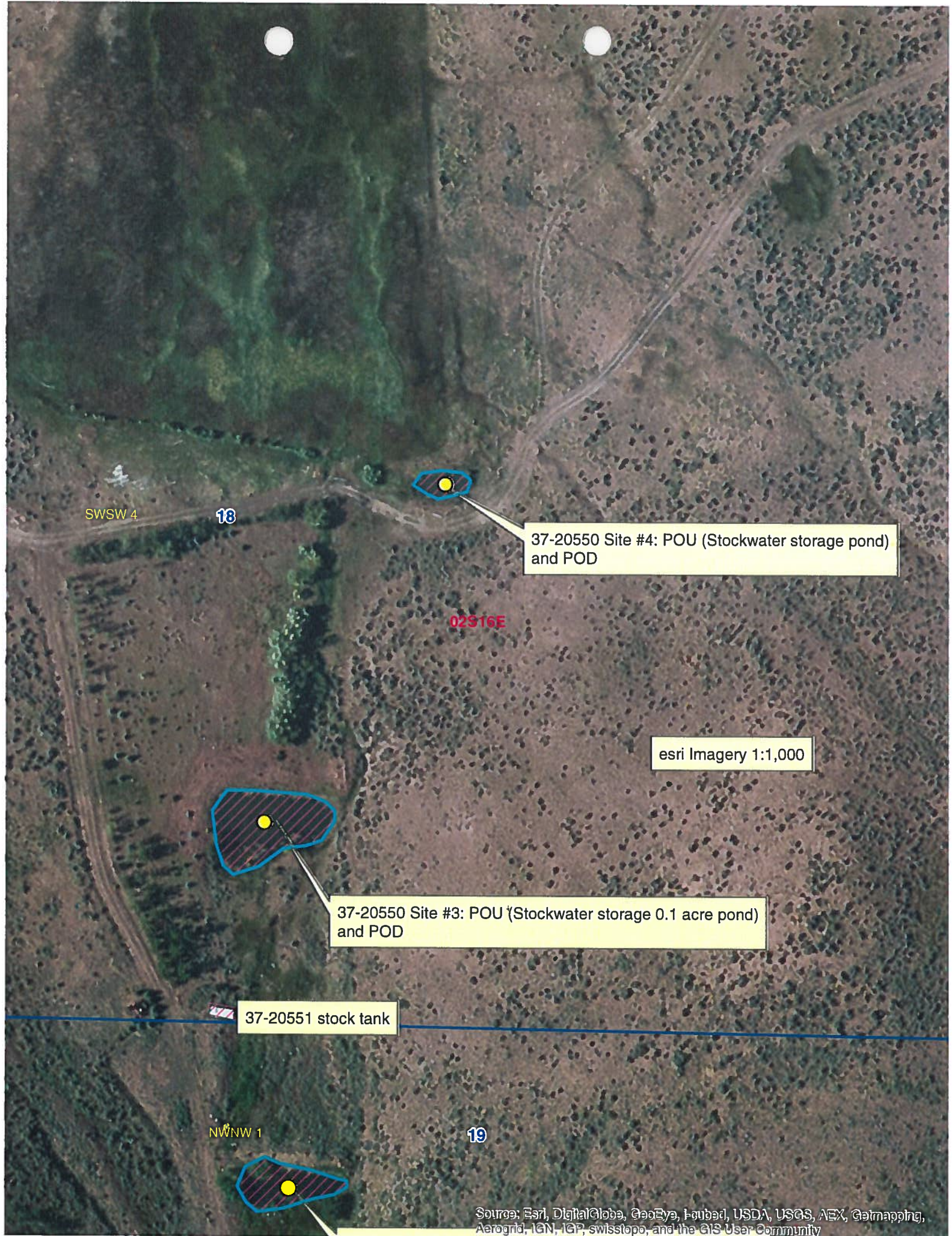
37-20550 Site #2: POU (stockwater storage 0.1 acre pond)
and POD

NENE
24

NWNW 1

19

esri Imagery 1:1,000



SWSW 4

18

02916E

37-20550 Site #4: POU (Stockwater storage pond) and POD

esri Imagery 1:1,000

37-20550 Site #3: POU (Stockwater storage 0.1 acre pond) and POD

37-20551 stock tank

NWNW 1

19

Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA, USGS, AEX, Geomapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

NWNE

NENE

37-8780 Stockwater Storage pond

37-20550 Site #7: POU (stockwater storage pond)
and POD

SWNE

SENE

13

02S15E

37-20550 Site #5: POU (stockwater storage 0.1 acre pond
and POD.

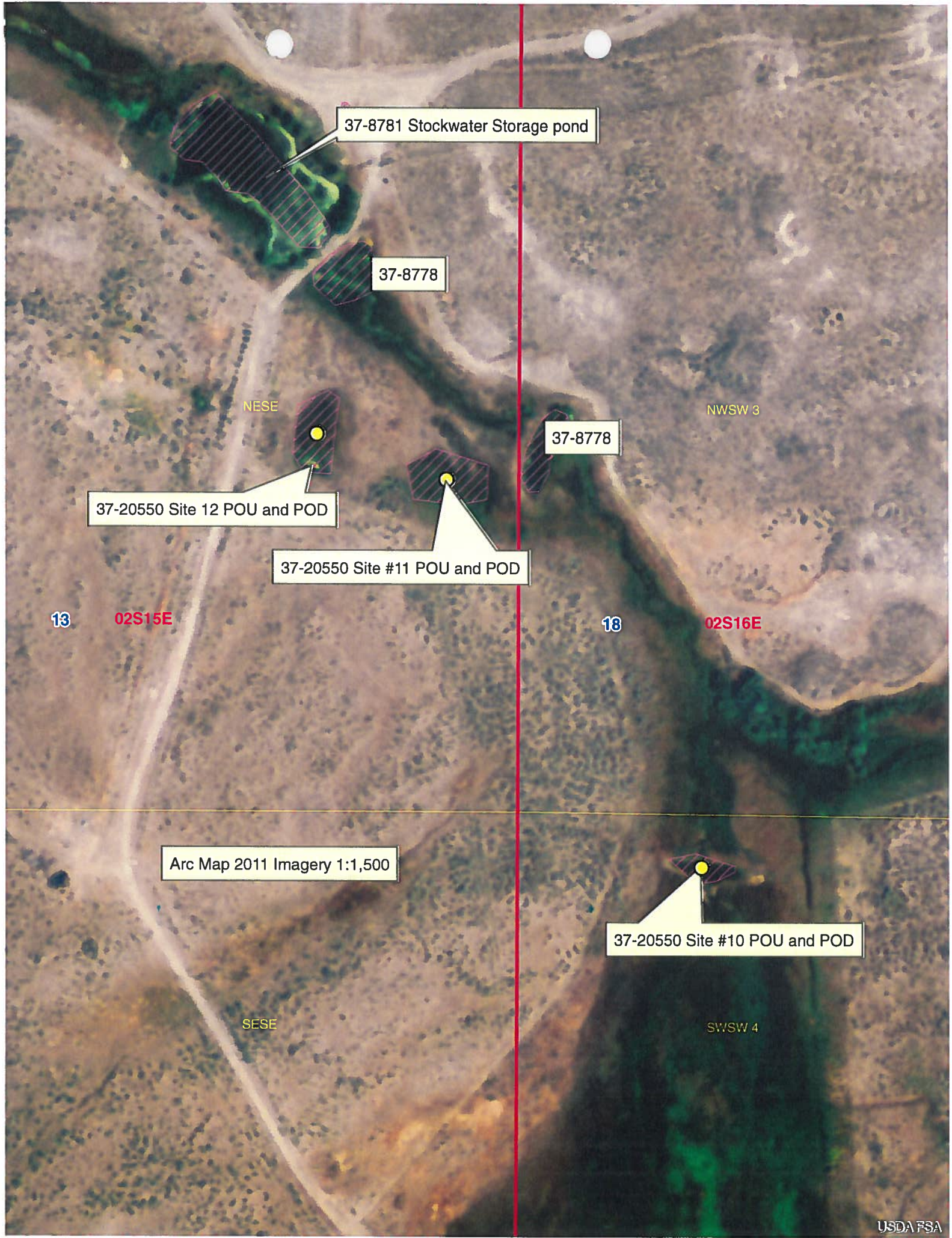
37-20550 Site #6: POU (stockwater storage pond)
and POD

esri Imagery 1:2,663

NWSE

NESE





37-8781 Stockwater Storage pond

37-8778

NESE

NWSW 3

37-8778

37-20550 Site 12 POU and POD

37-20550 Site #11 POU and POD

13

02S15E

18

02S16E

Arc Map 2011 Imagery 1:1,500

SESE

SWSW 4

37-20550 Site #10 POU and POD



37-2055
site #8

37-2055
site #

37-2055

#2

#3

#4

Indicator pictures for another
field exam for determining location: ...

09/19/2012

37-2055