Trip Report New Mexico Study of Field Indicators of Hydric Soils in the United States 6/23 - 6/27/2008

Objective

Lenore Vasilas, NRCS, HQ; Jim Herrington, EPA, TX; Ken Scheffe, NRCS, NM; and Bob Hill, NRCS, NM toured sites throughout New Mexico being monitored by EPA to assess the applicability of Field Indicators of Hydric Soil in the United States to Hydric soils in New Mexico and to identify problematic situations that may occur where current Field Indicators fail. EPA with the assistance of NRCS and the Army Corps of Engineers had previously installed IRIS tubes to evaluate if the areas in question were in fact soils that meet the definition of a hydric soil and go anaerobic in the upper part.

Observations

Summary of Site Visits

Data sheets completed at sites during site visits are attached. All data was collected using protocols spelled out in the Arid West 1987 Corps of Engineers Wetland Delineation Manual Regional Supplement. One IRIS tube was placed at five different locations on a transect moving away from the center of the wetland in mid-April. Some of these tubes were removed during our June site visit. However, it was determined that mid-April probably caught the very end of the "wet" season when water tables are at their highest. So, where no removal of iron or removal of iron only at the very bottom of the tube occurred the IRIS tubes were left in place to be removed sometime next spring. IRIS tubes in the high PH/high salt soils that had iron removed from the tubes had a black coating that replaced the iron in the center of each area of iron removal.

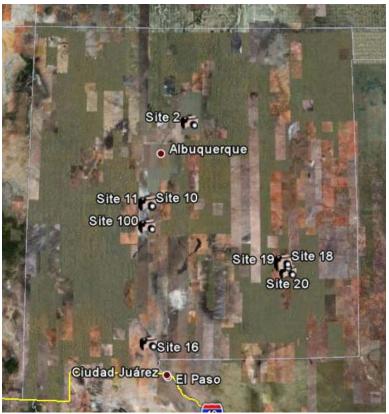


Fig. 1. Map of Sites.

Monday, 6/23/08

Site 20 Bottomless Lake State Park, Roswell, NM

The site was not disturbed and had normal circumstances. However, the soils were potentially problematic because of high pH, high salt content, high gypsum content strata, and red parent material strata. Vegetation at this site was hydrophytic with 66 percent of the vegetation being facultative (FAC), facultative wet (FACW), or obligate wet (OBL) using the dominance test for analysis. On our site visit on June 23, 2008 the only hydrology indicator present was the primary indicator salt crust (B11). An IRIS tube at the wettest site monitored had removal of at least 30 percent of the iron paint starting in the upper 6 inches of the surface. Although the technical standard requires that 5 tubes be used and 3 of the 5 tubes must meet the criteria to prove anaerobic conditions in the upper part, the fact that this was one of the few tubes that had 30 percent removal leads me to believe that the soil does go anaerobic in the upper part and is a hydric soil. The next site on the transect appeared to be close to the boundary of the hydric soil. The IRIS tube had some removal of iron, but not 30 percent. Since the tubes were most likely not placed on the site at the appropriate time, this result is inconclusive. The other 3 sites on the transect were most likely not hydric soils and had no removal of iron on the upper part of the IRIS tubes. All five IRIS tubes were pulled from this site.

The soil at the wettest point on the transect had a surface 2 inches thick with a color of value 3 and chroma of 1. Below that was a 2 inch layer of a matrix chroma of 7.5YR 5/4 with 30 percent 7.5YR 2.5/2 organic stained material and 5 percent 7.5YR 8/2 salt. The second layer was a layer containing what is thought to be red parent material. From 4 to 8 inches the soil was a 10YR 5/2 with no redox features. At 8 to 16 inches+ the soil was a mixed matrix of 10YR 6/3 and 7/3 with 10 percent redox concentrations of 7.5YR 5/6. The last layer described was high in gypsum. Vegetation, landscape position, and IRIS tube results indicate that this is likely a hydric soil. However, it does not currently meet any Field Indicators of Hydric Soils in the United States. This site also does not meet an original 1987 Corps of Engineers Wetland Delineation Manual field indicator for hydric soils.



Fig. 2. The picture on the left is at the lowest point on the transect where the IRIS tube met the technical standard criteria. The picture on the right is at the highest point on the transect where no iron was removed from the upper part of the IRIS tube.

Site 19 Bitter Lakes, Roswell, NM

The site was not disturbed and had normal circumstances. However, the soils were potentially problematic because of high pH, high salt content, and high gypsum content. The soil may have also contained problematic red parent material. The wetter area adjacent to the wettest monitoring site had no vegetation due to the high salt content. Vegetation at this site was hydrophytic with 66 percent of the vegetation being FAC, FACW, or OBL using the dominance test for analysis. On our site visit on June 23, 2008

the only hydrology indicator present was the primary indicator salt crust (B11). Significant removal in the upper part of IRIS tubes did not occur, so the tubes were left in to be removed after the start of the next "wet" season. At this time, it appears to me that the soils monitored on the transect out of the wetland were not hydric soils. However, the IRIS tube results may show otherwise.

The soil at the wettest point monitored 1 inch of a 7.5YR 2.5/1. At 1 to 2 inches it was a 10YR 5/2 with no redox; 2 to 6 inches was 5YR 5/4; 6 to 8 was a 10YR 6/2 and 10YR 5/3 mixed matrix with the 10YR 5/3 being gypsum; and 8 to 16 inches was 7.5YR 4/2 with 10 percent faint 7.5YR 4/3 redox concentrations as soft masses. This soil does not meet Field Indicator of Hydric Soils in the United States. It is closed to meeting F3. Depleted Matrix with the depleted matrix starting at 8 inches. However, the redox concentrations are faint and, therefore, do not count. This soil also does not meet an old 1987 Corps of Engineers Wetland Delineation Manual field indicator of hydric soils.



Fig. 3. The picture on the left is at the lowest point on the transect and the picture on the right is at the highest point on the landscape.

Site 18 Bitter Lakes, Roswell, NM

We visited a second site at Bitter Lake, but the consensus was that none of the sites monitored was actually a hydric soil and where the site was wet enough for hydric soil development the site was so high in salt that vegetation did not grow. No data was collected at this site, but the IRIS tubes were left in to see if our conclusions were valid.



Fig. 4. The profile on the left is from the lowest point on the transect and the profile on the right is from the highest point on the transect.

Tuesday, 6/24/08

Site 16 Mesilla Valley, Las Cruces, NM

This site was adjacent to what appears to be a dug pond. The site itself was not disturbed, normal circumstances existed, and the soils did not appear to be problematic. The vegetation at the wettest point on the transect was hydrophytic with 100 percent of the vegetation being FAC, FACW, or OBL. There were no wetland hydrology indicators present during out site visit on June 24th, however, in April when the IRIS tubes were placed at the site they had direct observation of saturation in the upper part of the soil. IRIS tubes did not have significant removal of iron on the upper part of the tube. The tubes were left in place to be removed after the start of the next "wet" season.

The soil at the wettest point on the transect had 0 to 8 inches was 7.5YR 4/3 with no redox concentrations and 8 to 24 inches of 7.5YR 4/2 with 10 percent 7.5YR 4/6 redox concentrations and 2 percent 7.5YR 4/1 redox depletions. The 8 to 24 inch layer meets the definition of a depleted matrix. However, 8 inches of a chroma higher than 2 above the depleted matrix precludes the soil from meeting any of the Field Indicators of Hydric Soils in the United States. This soil does, however, meet and old 1987 Corps of Engineers Wetland Delineation Manual field indicator of hydric soils. The local soil scientists did not think that the parent material at this site was problematic red parent material. The consensus at the site was that the wettest site was very close to the hydric soil boundary

and was probably just outside the line. The next IRIS tube on the transect had a cactus growing next to it. However, removal of the IRIS tubes in the spring may tell us something different. Additional IRIS tubes were placed in soils thought to be on the hydric soil side of the line.



Fig. 5. The soil profile on the left is at the lowest point on the transect. It has a depleted matrix starting at 8 inches, but does not meet the depleted matrix indicator due to the 8 inches above the depleted matrix being all high chroma. The profile on the right is at a point on the transect that is definitely not wet.

A second site in Mesilla Valley was visited, but it was decided that the soils at this site were not hydric. However, IRIS tubes were left in to confirm that conclusion.

Wednesday, 6/25/08

Site 100 Bosquecito, Socorro, NM

This site was not disturbed and normal circumstances existed. There had been a fire that affected this area within the last five years and burnt cottonwood trees were present. Within the last year, a brush chipper had been brought in to remove a dense stand of salt cedar. The affects of the fire may have had an affect on hydrology. The soils were potentially problematic due to high pH and/or high salt content. It had a hydrophytic vegetative community. No wetland hydrology indicators were present at the time of observation. The water table was at 24 inches.

The soil at the wettest point on the transect had a 0 to 7 inch 5YR 4/4 silty clay loam surface. The next horizon was a 5YR 4/3 clay loam. At 10 inches the soil was a 5YR 3/2 with 15 percent prominent redox concentrations. The IRIS tubes at this site did not have significant iron removal in the upper part. The IRIS tubes were left in to be pulled after the next "wet" season. The soil at this site did not meet a Field Indicator of Hydric Soils in the United States. It did, however, meet the old 1987 Corps of Engineers Wetland Delineation Manual hydric soils indicator gleyed or low chroma colors if you interpret the first two horizons as A horizons. It meets the indicator because of the chroma of 2 with redox concentrations at 10 inches. Consensus was that the site may be slightly drier than what is needed for a hydric soil to develop.

We did look at the soils in a groundwater discharge seep at the base of the slope feeding water into the broad flood plain. The site had hydrophytic vegetation and appeared to stay wet for significant periods of time. The site was not wet at the time of observation. The soils did not meet any Field Indicators of Hydric Soils in the United States or 1987 Manual Indicators. An IRIS tube was installed in this area to be removed after the next "wet" season to determine if these soils are in fact problematic. The soil were very red in color with hues of 5YR, but the local soil scientists did not believe that these were soils derived for "red" parent material (crystalline red shale). It is thought that the issue in these soils is the pH and/or salinity.



Fig. 6. Two soil profiles along the transect at Bosquecito. None of the soils along this transect met Field Indicators of Hydric Soils. However, soil observed in an area that appeared to be a groundwater discharge wetland also did not meet Field Indicators.

Site 10 La Joya, Socorro, NM

This site was not disturbed and normal circumstances existed. The soils were potential problematic due to high pH and/or high salinity. It had 100 percent FAC, FACW or OBL vegetation and met the primary wetland hydrology indicator oxidized rhizospheres. The IRIS tubes at the site did not have significant iron removal in the upper part and were left in place to be removed at the end of the next "wet" season. The group thought that this point on the transect was wet but the IRIS tubes were put in place too late in the "wet" season to capture the anaerobic conditions in the upper part.

The soils at the wettest point on the transect had a surface horizon from 0 to 2 inched with a mixed matrix of 10YR 4/1 and 10YR 3/2 clay loam. The next horizon was 2 to 7 inches of a 2.5Y 5/1 with 15 percent prominent redox concentrations. The third horizon from 7 to 13 inches was a 10YR 5/3 with 25 percent redox concentrations. This site met the field indicator F3 Depleted Matrix with the depleted matrix occurring at 2 to 7 inches. This soil does not meet an old 1987 Manual indicator because the matrix color is a 3 chroma immediately below the A horizon. The next point higher in the landscape on the transect had 3 chroma matrices in the upper part and, therefore, did not meet any hydric soils field indicators. This point appeared to be slightly too high on the landscape to be a wetland. It appeared to the group that Field Indicators of Hydric Soils of the United States were working at this site.



Fig. 7. The soil profile on the left was in an upland area. The soil profile on the right was a hydric soil meeting the Field Indicator F3. Depleted Matrix.

6/26/08.

Site 11 San Geronimo, Socorro, NM

This site was not disturbed and normal circumstances existed. The soils were potentially problematic due to high pH and/or salinity. The vegetative community was 100 percent FAC, FACW, and OBL. It met the primary wetland hydrology indicator salt crust. The IRIS tubes did not have significant iron removal in the upper part. IRIS tubes were left in place to be removed after the next "wet" season.

The soils at the wettest point on the transect had a surface horizon from 0 to 0.24 inches of 10YR 8/3 salt crust. From 0.25 to 4 inches was a 10YR 4/3 clay loam. And, from 4 to 13 inches was a 7.5YR 4/2 with common prominent redox concentrations. This soil met the Field Indicator F3 Depleted Matrix and also met the 1987 Manual indicator gleyed or low chroma colors. Other points on the transect did not meet hydric soil indicators and were not thought to be in wetlands. This site did not appear to be problematic.



Fig. 8. The soil profile on the left is of a hydric soil meeting the Field Indicator F3. Depleted Matrix. The soil on the right is from a higher landscape position.

Site 2 Leonora Curtin, Santa Fe, NM

This site did not appear to be problematic; however the wettest site did not meet a Field Indicator of Hydric Soils in the United States. The site contained many small areas of ground water discharge seeps with fingers of uplands in between. All the IRIS tubes were placed in the uplands between the discharge areas and did not have significant iron removal in the upper part. A soil description was taken in the upland and about 10 feet away in a small groundwater discharge wetland. The wetland had hydrophytic vegetation and was saturated to the surface. However, the hydric soil did not meet a Field Indicator of Hydric Soils in the United States. The soil was very dark in color and high in organic matter indicating that they were wet, but was not dark enough to meet F12 Thick Dark Surface, was too thick to meet A11 Depleted Below Dark Surface, and lacked the redox features to meet F6 Redox Dark Surface. The soil did meet a 1987 Manual hydric soils indicator. We are seeing a similar problem with thick dark soils in the Great Plains Mollisols. Further work may be needed to fill in gaps between the dark surface Field Indicators.



Fig. 9. The soil profile on the right was taken in a groundwater discharge seep that stays wet for most of the year. The soil profile on the right was taken about less than 20 feet away outside of the discharge area. Although the soil in the seep is very dark in color it did not meet a Field Indicator because it was to dark to meet F3. Depleted Matrix, did not have the redox features to meet F6. Redox Dark Surface, and the dark surface was not thick enough to meet A12. Thick Dark Surface and was too thick to meet A11. Depleted Below Dark Surface.

Conclusions

It does appear that some of the soils at sites monitored in New Mexico are problematic in that they do not exhibit the characteristic soil morphologies that are associated with hydric soils. The problematic situations in most cases seem to be due to high pH and/or high salinity. The Bottomless Lake State Park site and the Bosquecito site were the best examples of this situation. However, the Bottomless Lake site also had problematic red parent material and high amounts of gypsum in the soil as well. The Bosquecito site had very red soils, but it was thought that the parent material was not the problematic "red" parent material with the iron being in a crystalline form. Further investigation is needed to develop field indicators of hydric soils in these high pH/high salinity sites.

There was also a wetland point at the Leonora Curtin Wetland that did not meet a Field Indicator of Hydric Soils in the United States. The situation at the Leonora Curtin Wetland is not unusual or unique to the Arid West and further data needs to be collected in these dark surface situations to fill in the gaps between the dark surface indicators F6 Redox Dark Surface, A11, Depleted Below Dark Surface, and A12 Thick Dark Surface. However, this situation usually occurs in very wet soils where the hydrology is very evident and in many case as you move toward the edge of the wetland you will encounter one of the common dark surface indicators. Further investigation needs to be done in thick dark surface soils to fill in the gaps between dark surface indicators.

The Bitter Lakes Sites did not appear to be hydric soils. If the IRIS tubes are pulled after the next "wet" season, no further investigation is needed in these areas. The wetter part of the landscape at the two Bitter Lakes sites were so high in salinity that they had no vegetation and, therefore, would not be considered wetlands because of the lack of vegetation.

The Mesilla Valley sites did not appear to be wet. The transect at site 17 appeared to start its wettest point very close to the hydric soil boundary. The IRIS tube did not have significant paint removal in the upper part. The soil did meet an old 1987 Manual hydric soil indicator, but did not meet a Field Indicator of Hydric Soils in the United States due to more than 6 inches of a chroma higher than 2 occurring above the depleted matrix. Otherwise, it would have met F3 Depleted Matrix. Site 16 did not appear to be wet anywhere in the vicinity of the transect. Unless the IRIS tubes that are pulled at the end of the next "wet" season show that the soils go anaerobic in the upper part, no further investigation needs to be done at the Mesilla Valley sites.

At the La Joya and San Geronimo sites the Field Indicators of Hydric Soils in the United States appeared to be working based on landscape position and other indicators of wetness. Where the group thought the point was in a wetland the soils met Field Indicators of Hydric Soils in the United States. Where the group thought the points were in uplands, the soil did not meet any hydric soils indicators. The La Joya wetland, however, did not meet an old 1987 Manual hydric soil indicator. Unless the IRIS tubes pulled after the next "wet" season give us results that conflict with our initial findings, no further investigation needs to be done at these sites.

Future Needs

EPA may be interested in funding a project for data collection on problematic hydric soils in New Mexico. The data collected thus far on these sites indicates that the most significant problem situation in these areas are in soil affected by high pH/high salinity. Problematic parent materials in New Mexico include parent materials with high gypsum and "red" parent material. Sites that represent the problematic situations in New Mexico are the Bottomless Lakes State Park site and the Bosquecito site. The National Technical Committee for Hydric Soils is planning to hold their next meeting in New Mexico to provide further information and advice on these issues. It would be helpful if they could visit both the Bottomless Lake site and the Bosquecito site. Unfortunately, the sites are not close.

Project/Site: Bottonless Lakes State	Pouls C	ity/County	Char	23 Sampling Date: 6-23-200
Applicant/Owner: New Mexico Park + Rea				
Investigator(s): Herrington Hill, Scheffe, Va				
Landform (hillslope, terrace, etc.): Allurial flat				
Subregion (LRR):				
Soil Map Unit Name: Hp-Holling Gypsus				
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation, Soil, or Hydrology si				
Are Vegetation, Soil, or Hydrology no				•
SUMMARY OF FINDINGS – Attach site map				
Hydrophytic Vegetation Present? Yes No)		_	• •
Hydric Soil Present? Yes No		ı	e Sampled in a Wetler	
Wetland Hydrology Present? Yes No	>	AAITII	ili a vvetiai	nd? Yes No
Remarks:				
VEGETATION				
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Use scientific names.)	% Cover	Species?	Status	Number of Dominant Species
1. Tamasix Chinensis			NI	That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
Total Cover		*	<u>* </u>	Percent of Dominant Species
Sapling/Shrub Stratum			L Const	That Are OBL, FACW, or FAC:
1. (Spopobulus airoides			<u>FAC</u>	Prevalence Index worksheet:
12.2 Disticulis spicata	20%	<u> </u>	FACW	
3				OBL species x 1 =
4		-		FACW species x 2 = FAC species x 3 =
5Total Cover		*************************************	***************************************	FACU species x 4 =
Herb Stratum				UPL species x 5 =
7.2	***************************************			Column Totals: (A) (B)
2				
3				Prevalence Index = B/A =
4				Hydrophytic Vegetation Indicators: Dominance Test is >50%
5				Prevalence Index is ≤3.0¹
6				Prevalence index is \$3.0 Morphological Adaptations¹ (Provide supporting
7 8		*		data in Remarks or on a separate sheet)
Total Cover	80%			Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum				
1.	***************************************			Indicators of hydric soil and wetland hydrology must be present.
2				
Total Cover			,	Hydrophytic Vegetation
% Bare Ground in Herb Stratum % Cover	of Biotic Cr	ust <u><i>5%</i></u>	<u> </u>	Present? Yes No
Remarks:				
Saltcedar/alkali sacator	s alluv	rial A	at.	

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Profile Desc	cription: (Describe	to the dept	the state of the s			n commi	n the absenc	e of filalicators.)		
Depth	Matrix			Features		Loc ²	Texture	Remarks		
(inches)	Color (moist)	100%	Color (moist)	%	Type ¹	LOC		No.		
0-211	10YR3/1	Columbia				1	-loan			
2-4"	7.58R 5/4	65%	7.5YR 2.5/2	30%				-		
			7.5 YR 8/2	5%			1			
		<u> </u>	1 445/-	-						
			104R 5/3-R	u <u>bbedl</u>	<u>ئىسىتىد</u>		• —	<u> </u>		
4-811	10YR 5/2									
7-1611	10YR 6/3	50%		4 .						
1-10	7/3		7.5 YR 5/6	10%			V			
	113	30%	1.3 (R 76	1070						
			D 1	21			C-Post Cha	nnel M-Matrix		
'Type: C=C	Concentration, D=Dep	oletion, RM= cable to all				a Liling, r	Indicator	nnel, M=Matrix. rs for Problematic Hydric Solls ³ :		
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Histoso	Epipedon (A2)		Stripped Ma					Muck (A10) (LRR B)		
1	listic (A3)		Loamy Muc		l (F1)			uced Vertic (F18)		
	en Sulfide (A4)		Loamy Gley	-				Parent Material (TF2)		
	ed Layers (A5) (LRR	C)	Depleted M		,			er (Explain in Remarks)		
l	luck (A9) (LRR D)	- /	Redox Dark		F6)					
	ed Below Dark Surface	ce (A11)	Depleted D							
	Dark Surface (A12)	/	Redox Dep							
	Mucky Mineral (S1)		Vernal Pool					rs of hydrophytic vegetation and		
	Gleyed Matrix (S4)						wetlaı	nd hydrology must be present.		
	Layer (if present):		·	÷ ,	ţ .			A CARLOS SANTAS CONTRACTOR		
Type:	- 3									
Depth (ii	nches):						Hydric Se	oil Present? Yes No		
Remarks:	200/ 0 1	War out	Faistubes.	-Laft	tube	in to n	nea suc	high water table. or supplement.		
1	- 30% reduc	1000 000	si o hude	le ind	1 cotor	fores	rough,	on supplement.		
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Surfac	e Water (A1)		√ Salt Crust	(B11)				Sediment Deposits (B2) (Riverine)		
High W	Vater Table (A2)		Biotic Cru	st (B12)				Drift Deposits (B3) (Riverine)		
Satura	ition (A3)		Aquatic Ir	vertebrate	es (B13)		Drainage Patterns (B10)			
Water	Marks (B1) (Nonrive		l li sala a asa a				*******	4		
		erine)		Sulfide O				Dry-Season Water Table (C2)		
						Living Ro	oots (C3)	Dry-Season Water Table (C2) Thin Muck Surface (C7)		
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Sedim Drift D Surfac Inunda Water- Field Obs Surface W Water Tab Saturation	ent Deposits (B2) (Nonriversits (B3) (Nonriversits (B6)) ation Visible on Aerial-Stained Leaves (B9) ervations: fater Present? Present?	onriverine) erine) I Imagery (B) Yes Yes	Oxidized Presence Recent In Other (Ex	Rhizosphe of Reduct on Reduct plain in Re	eres along ed Iron (C ion in Plo emarks)	4) wed Soils	(C6)	Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)		
Sedim Drift D Surface Inunda Water- Field Obsets Surface W Water Tab Saturation	nent Deposits (B2) (Nonriversits (B3) (Nonriversits (B6) ation Visible on Aerial-Stained Leaves (B9) ervations: If a ter Present?	onriverine) erine) I Imagery (B) Yes Yes Yes	Oxidized Presence Recent Ir Other (Ex No Depth (in No Depth (in No Depth (in	Rhizosphe of Reduce on Reducti plain in Re nches):	eres along ed Iron (C ion in Plo emarks)	4) wed Soils	(C6)	Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) ogy Present? Yes No		
Sedim Drift D Surface Inunda Water- Field Obsets Surface W Water Tab Saturation	ent Deposits (B2) (Nonriverse Soil Cracks (B6) ation Visible on Aeria-Stained Leaves (B9) ervations: (ater Present? Present? Present?	onriverine) erine) I Imagery (B) Yes Yes Yes	Oxidized Presence Recent Ir Other (Ex No Depth (in No Depth (in No Depth (in	Rhizosphe of Reduce on Reducti plain in Re nches):	eres along ed Iron (C ion in Plo emarks)	4) wed Soils	(C6)	Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) ogy Present? Yes No		
Sedim Drift D Surface Inunda Water- Field Obset Surface W Water Tab Saturation (includes of Describe F	nent Deposits (B2) (Nonriverse Soil Cracks (B6) ation Visible on Aeria -Stained Leaves (B9) ervations: ater Present? Present? papillary fringe) Recorded Data (streage)	onriverine) erine) I Imagery (B) Yes Yes Yes m gauge, m	Oxidized Presence Recent Ir Other (Ex No Depth (in	Rhizosphe of Reduce on Reducti plain in Re nches):	eres along ed Iron (C ion in Plo emarks)	4) wed Soils	(C6)	Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) ogy Present? Yes No		
Sedim Drift D Surface Inunda Water- Field Obset Surface W Water Tab Saturation (Includes of Describe F	nent Deposits (B2) (Nonriverse Soil Cracks (B6) ation Visible on Aeria -Stained Leaves (B9) ervations: ater Present? Present? papillary fringe) Recorded Data (streage)	onriverine) erine) I Imagery (B) Yes Yes Yes m gauge, m	Oxidized Presence Recent Ir Other (Ex No Depth (in	Rhizosphe of Reduce on Reducti plain in Re nches):	eres along ed Iron (C ion in Plo emarks)	4) wed Soils	(C6)	Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) ogy Present? Yes No		
Sedim Drift D Surface Inunda Water- Field Obset Surface W Water Tab Saturation (includes of Describe F	ent Deposits (B2) (Nonriverse Soil Cracks (B6) ation Visible on Aeria-Stained Leaves (B9) ervations: (ater Present? Present? Present?	onriverine) erine) I Imagery (B) Yes Yes Yes m gauge, m	Oxidized Presence Recent In Other (Ex No Depth (in No Depth (in No Depth (in onitoring well, aerial	Rhizosphe of Reduct on Reduct plain in Re nches): nches):	eres along ed Iron (C ion in Plo emarks)	4) wed Soils We spections	(C6)	Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) ogy Present? Yes No		
Sedim Drift D Surface Inunda Water- Field Obset Surface W Water Tab Saturation (includes of Describe F	nent Deposits (B2) (Nonriverse Soil Cracks (B6) ation Visible on Aeria -Stained Leaves (B9) ervations: ater Present? Present? papillary fringe) Recorded Data (streage)	onriverine) erine) I Imagery (B) Yes Yes Yes m gauge, m	Oxidized Presence Recent In Other (Ex No Depth (in No Depth (in No Depth (in onitoring well, aerial	Rhizosphe of Reduct on Reduct plain in Re nches): nches):	eres along ed Iron (C ion in Plo emarks)	4) wed Soils We spections	(C6)	Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) ogy Present? Yes No		

Project/Site: Bitter Lakes Applicant/Owner: A							
nvestigator(s): Here, Hill, Va.							
andform (hillslope, terrace, etc.): All							
Subregion (LRR):							
ioil Map Unit Name: Balmoph							
				/	NWI classificat	No.	
re climatic / hydrologic conditions on the							
re Vegetation, Soil, or			_	_			No
re Vegetation, Soil, or	Hydrology na	iturally pro	blematic?	S (If ne	eeded, explain any answers	in Remarks.)	
SUMMARY OF FINDINGS – A	ttach site map s	howing	samplin	g point l	ocations, transects,	important fe	atures, etc.
Hydrophytic Vegetation Present?	Yes No		is th	e Sampleo	d Area		
Hydric Soil Present?	Yes No		İ	n a Wetla		No	
Wetland Hydrology Present? Remarks:	Yes No						_
/EGETATION							
		Absolute	Dominant	Indicator	Dominance Test works	neet:	
Tree Stratum (Use scientific names.			Species?	4	Number of Dominant Spe	*******	
1. Tamarix Chinensis			_ <u>x</u>	<u>N</u> T	That Are OBL, FACW, or	FAC:	<u>2</u> (A)
2					Total Number of Domina	-	(B)
3					Species Across All Strata	:	(B)
Sapling/Shrub Stratum	Total Cover:		***	· · · · · · · · · · · · · · · · · · ·	Percent of Dominant Spe That Are OBL, FACW, or	rac: 46	1/0 (A/B)
1 (Distichlis spicala		20%	Y	FACW	Prevalence Index works	sheet:	
2) Spopobulus aipoides		50%	Y	FAC	Total % Cover of:	Multipl	y by:
3					OBL species	x 1 =	
4					FACW species	x 2 =	
5	*****				FAC species	x 3 =	
Harb Stratum	Total Cover:				FACU species		
Herb Stratum					UPL species		
2					Column Totals:	(A)	(B)
3					Prevalence Index :	= B/A =	
4					Hydrophytic Vegetation		
5.					Dominance Test is >		
6.					Prevalence Index is		
7					Morphological Adapt data in Remarks		
8					Problematic Hydroph		=
Woody Vine Stratum	Total Cover:	90%	. Fr. X₩		i i obioinado riyaropi	ijao vogotation	(mappedity
1.		American Constitution of Const		***************************************	¹Indicators of hydric soil a	and wetland hydi	rology must
2	Total Cover:		***************************************		Hydrophytic		
% Bare Ground in Herb Stratum	% Cover	of Biotic C	rust <u>5%</u>		Vegetation Present? Yes	No	
Remarks:							
2011-06-59							
•							

)IL								Sampling Point:	
rofile Des	cription: (Describe t	o the dep	th needed to docu	ment the	ndicator	or confirm	the abse	nce of indicators.)	
Depth	Matrix		Redo	x Feature	s			W. C.	
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Textur	e Remarks	
3-181	7.54R 2.5/	100					loan	No.	
1-211	10YR 5/3	100					,		
2-64	54R4/4	100	_ 1 2			·		-	
2-84	104R 6/2	60						The state of the s	
	104R 5/3	40							
3-1611	7.54R4/2	100	7.5 YR 43	100	<u>C</u>	<u>M</u> _			
,				, , , , , , , , , , , , , , , , , , ,					
Type: C=0	Concentration, D=Dept	letion, RM	=Reduced Matrix.			re Lining, F	RC=Root C	Channel, M=Matrix.	
ydric Soi	I Indicators: (Applica	able to all	LRRs, unless other	rwise not	ed.)		Indica	ators for Problematic Hydric Soils ³ :	
Histoso	ol (A1)		Sandy Red	lox (S5)			1	cm Muck (A9) (LRR C)	
 Histic E	Epipedon (A2)		Stripped M	atrix (S6)			2	cm Muck (A10) (LRR B)	
	Histic (A3)		Loamy Mu	cky Minera	al (F1)		R	educed Vertic (F18)	
	gen Sulfide (A4)		Loamy Gle	-			Red Parent Material (TF2)		
	ed Layers (A5) (LRR (~1	Depleted N	-			Other (Explain in Remarks)		
	• • • • •	-)	Redox Dar					,	
	fuck (A9) (LRR D)	- (444)	Depleted [• /				
	ed Below Dark Surfac	e (ATT)	***************************************		• •				
	Dark Surface (A12)		Redox Dep		(10)		- بن _{د سا} 3	-to of hydrophydia yagatatian and	
	Mucky Mineral (S1)		Vernal Poo	(P1) ak				ators of hydrophytic vegetation and	
Sandy	Gleyed Matrix (S4)						we	tland hydrology must be present.	

HYDROLOGY

Type: ___

Remarks:

Depth (inches): _

Restrictive Layer (if present):

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	Water Marks (B1) (Riverine)
 Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Surface Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed States Other (Explain in Remarks) 	Crayfish Burrows (C8)
Water-Stained Leaves (B9)	FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes No Depth (inches):	
Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Yes No Depth (inches): 225// Yes No Depth (inches): 225// Depth (inches): 225// Yes No	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect	tions), if available:
Remarks:	of the second o

5: Appears to have a septeted mateix at 8" but has faint redox feature, therefore does not need F3. Does not meet 1987 manual.

Hydric Soil Present? Yes_

WETLAND DETERMINATION DATA, FORM - Arid West Region Project/Site: 16-1 Mesilia Valley City/County: Mesi Dava Ava Sampling Date: 6-24-2008 Applicant/Owner: NM Game & Fish State: NM Sampling Point: (6-1 Investigator(s): Ken Scheffe Section, Township, Range: Landform (hillslope, terrace, etc.); Relic Flood plain Local relief (concave, convex, none); (1) NUX Slope (%): Lat: 32.24623 Long: 106.82124 NWI classification: Soil Map Unit Name: Ba Belen Are climatic / hydrologic conditions on the site typical for this time of year? Yes __X__ No _____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No ____ Are "Normal Circumstances" present? Yes ____ No ____ Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? Mv (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes _____ No ____ Is the Sampled Area Hydric Soil Present? Yes _____ No ___ within a Wetland? Yes _____ No ____ Wetland Hydrology Present? Remarks: VEGETATION Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Use scientific names.) % Cover Species? Status Number of Dominant Species 1. Salix Goodingnii - 500 1 OBC That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species Total Cover: 57 That Are OBL, FACW, or FAC: Sapling/Shrub Stratum 1. lamarix chinensis Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ Total Cover: 5020 FACU species x 4 = _____ Herb Stratum UPL species _____ x 5 = ____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = ____ Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% Prevalence Index is ≤3.01 Distichlis Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) Total Cover: 100 Woody Vine Stratum ¹Indicators of hydric soil and wetland hydrology must 1. Mone be present. Hydrophytic Total Cover: Vegetation % Bare Ground in Herb Stratum % Cover of Biotic Crust _ Present? Remarks:

Drofile Doce	ription: (Describe t	to the den	th needed to docum	nent the in	dicator	or confirm	the absence of	of Indicators.)		
Depth		to the dep		x Features	alcator ()	(25001105 0	, maration,		
(inches)	Matrix Color (moist)	%	Color (moist)		Type ¹	Loc ²	Texture	Remarks		
0-8	7 <4R417	100		-			&SiC			
	7620412		7.53				SiC			
8-24	1211-116	_60		202.						
			7.54R4/1	270		***************************************				
			7.54× 4/16	10%						
		-								
				9.						
	oncentration, D=Dep					e Lining, R	C=Root Channe	el, M=Matrix. for Problematic Hydric Solls ³ :		
	Indicators: (Applic	able to all			a.)					
Histosol	,		Sandy Red					uck (A9) (LRR C) uck (A10) (LRR B)		
l ——	pipedon (A2)		Stripped Ma		/E4\			ed Vertic (F18)		
	istic (A3) en Sulfide (A4)		Loamy Mud Loamy Gley	-				rent Material (TF2)		
	d Layers (A5) (LRR (2)	Depleted M		. 27			Explain in Remarks)		
	uck (A9) (LRR D)	-,	Redox Dark		- 6)			,		
l ——	d Below Dark Surfac	e (A11)	Depleted D	ark Surface	(F7)					
Thick D	ark Surface (A12)		Redox Dep	ressions (F	8)					
Sandy I	Mucky Mineral (S1)		Vernal Poo	ls (F9)				of hydrophytic vegetation and		
	Gleyed Matrix (S4)						wetland l	hydrology must be present.		
Restrictive	Layer (if present):									
Type:										
1	ches):						Hydric Soil I	Present? YesNo		
Remarks:	. 1	40.0) L mad	C3						
High C	moma 10	5 cely	10 meet	7						
Meets	buorna ta	al								
	-									
HYDROLO)CV									
							Cocon	dary Indicators (2 or more required)		
1	drology Indicators:		* · · · · · · · · · · · · · · · · · · ·							
	cators (any one indic	ator is suff						ater Marks (B1) (Riverine)		
	Water (A1)		Salt Crust	• ,				ediment Deposits (B2) (Riverine)		
1	ater Table (A2)		Biotic Cru		(D40)			ift Deposits (B3) (Riverine)		
Saturat			Aquatic In				Drainage Patterns (B10)			
	Marks (B1) (Nonriver		Hydrogen			Linda a Daa		ry-Season Water Table (C2)		
	ent Deposits (B2) (No							nin Muck Surface (C7)		
	posits (B3) (Nonrive	rine)	Presence					rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9)		
	Soil Cracks (B6)	l	Recent Iro			ved Solis (nallow Aquitard (D3)		
	ion Visible on Aerial	imagery (E	37) Other (Ex	piain in Re	marks)			AC-Neutral Test (D5)		
L	Stained Leaves (B9)									
Field Obse			Ma Book a	-h\-						
1			No Depth (ir		20					
Water Table			No Depth (ir			-		n		
Saturation I		res	No Depth (ir	nches):/	25	Wetl	and Hydrology	Present? Yes No		
Describe R	apillary fringe) ecorded Data (strean	n gauge, m	onitoring well, aerial	photos, pre	evious in	spections).	if available:			
		∌3 , •••				. ,,				
Remarks:				<u> </u>						
Nemaiks.										

Project/Site:	City/C	County: Cha	WF 72	_ Sampling Date: <u>{ O B ~ W</u>
Applicant/Owner: Bosouse: fra			State: N M	Sampling Point:
Investigator(s): Herrington, Vali	is us Sahoffe settle	on, Township, Rar	 nge:	
Landform (hillslope, terrace, etc.):				
Subregion (LRR):	Lat: 35	33, 941	Long: 196 66	. 274 Datum:
Soil Map Unit Name:				
Are climatic / hydrologic conditions on the s	* * * * * * * * * * * * * * * * * * * *		7	
Are Vegetation, Soil, or Hyd				
Are Vegetation, Soil, or Hyd			eded, explain any answ	
SUMMARY OF FINDINGS – Atta			-	·
Hydrophytic Vegetation Present?	Yes No			
1	Yes No	Is the Sampled		
l .	Yes No	within a Wetlan	d? Yes	No
Remarks:		I		
VEGETATION				
VEGETATION	Abcolute Don	ninant Indicator	Dominance Test wor	·kchoot·
Tree Stratum (Use scientific names.)		cies? Status	Number of Dominant S	
1. Salt cedar				, or FAC: (A)
			Total Number of Domi	inent
3			Species Across All Str	
4			Percent of Dominant S	2nariae
	Total Cover:		That Are OBL, FACW,	
Sapling/Shrub Stratum 1. District lis			Prevalence Index wo	rt/chant:
94. 6				Multiply by:
2		1		x 1 =
4.				x 2 =
5				x 3 =
	Total Cover:		FACU species	x 4 =
Herb Stratum			UPL species	x 5 =
1			Column Totals:	(A) (B)
2			Dravalance Inda	x = B/A =
3			Hydrophytic Vegetat	
4			Dominance Test i	
5			Prevalence Index	
6				aptations ¹ (Provide supporting
7. 8.			data in Remari	ks or on a separate sheet)
	Total Cover:		Problematic Hydro	ophytic Vegetation ¹ (Explain)
Woody Vine Stratum				
1.			Indicators of hydric so be present.	oil and wetland hydrology must
2				<u> </u>
	Total Cover:		Hydrophytic Vegetation	
% Bare Ground in Herb Stratum	% Cover of Biotic Crust _		Present? Ye	es No
Remarks:			L	
h +h +	A. bulker	- W		
exeptin to gra	undwater -	& C		

SOIL	Sampling Point:

Profile Description: (Describe to the depth needed to docu	iment the indicator o	r confirm the	absence of indicators.)
Depth Matrix Red	ox Features		
(inches) Color (moist) % Color (moist)	% Type ¹		Texture Remarks
0-7 54844			<u> </u>
7~10 578 413			
10-12 54R3/2 54R3/8	<u> 15 </u>		Sc!
	ANGELIE ANGELI		
	-		
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix.	² Location: PL=Pore	Lining, RC=I	Root Channel, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless oth	erwise noted.)		Indicators for Problematic Hydric Solls ³ :
Histosol (A1) Sandy Re			1 cm Muck (A9) (LRR C)
	Matrix (S6)		2 cm Muck (A10) (LRR B)
	ucky Mineral (F1) eyed Matrix (F2)		Reduced Vertic (F18) Red Parent Material (TF2)
	Matrix (F3)		Other (Explain in Remarks)
	rk Surface (F6)		
	Dark Surface (F7)		
	pressions (F8)		3
Sandy Mucky Mineral (S1) Vernal Po	ols (F9)		Indicators of hydrophytic vegetation and wetland hydrology must be present.
Sandy Gleyed Matrix (S4) Restrictive Layer (if present):			welland hydrology hads be present.
Type:			
Depth (inches):			lydric Soil Present? Yes No
Remarks:			
meets 1987 mar	rual		
HYDROLOGY			
Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)			Water Marks (B1) (Riverine)
Surface Water (A1) Salt Cru	st (B11)		Sediment Deposits (B2) (Riverine)
	rust (B12)		Drift Deposits (B3) (Riverine)
	Invertebrates (B13)		Drainage Patterns (B10)
	en Sulfide Odor (C1)	livina Boots	Dry-Season Water Table (C2)
	e of Reduced Iron (C4		(C3) Thin Muck Surface (C7) Crayfish Burrows (C8)
	ron Reduction in Plow		
	Explain in Remarks)	04 00.10 (00)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	,		FAC-Neutral Test (D5)
Field Observations:			
Field Observations: Surface Water Present? Yes No Depth	(inches):		
		1	
Surface Water Present? Yes No Depth Water Table Present? Yes No Depth Saturation Present? Yes No Depth	(inches):	_	d Hydrology Present? Yes No
Surface Water Present? Yes No Depth Water Table Present? Yes No Depth	(inches): (inches):	Wetland	
Surface Water Present? Yes No Depth Water Table Present? Yes No Depth Saturation Present? Yes No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aeri	(inches): (inches):	Wetland	
Surface Water Present? Yes No Depth Water Table Present? Yes No Depth Saturation Present? Yes No Depth (includes capillary fringe)	(inches): (inches):	Wetland	
Surface Water Present? Yes No Depth Water Table Present? Yes No Depth Saturation Present? Yes No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aeri	(inches): (inches):	Wetland	
Surface Water Present? Yes No Depth Water Table Present? Yes No Depth Saturation Present? Yes No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aeri	(inches): (inches):	Wetland	

Project/Site: La Joya #2	City/Cc	unty: Socordo	Sampling Date: 6-25-200
Applicant/Owner: New Mexico Gamet			
Investigator(s): Here Hill Vasiles, S			
, , ,			none): Slightly conveys Slope (%): 0-1%
	B		•
Subregion (LRR):	Lat: <u>390 20</u>		186° 51, 894 Datum:
Soil Map Unit Name: Typic Ustiflus			NWI classification:
Are climatic / hydrologic conditions on the site typics	_		
Are Vegetation, Soil, or Hydrology _			Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology _	naturally problemat	ic? Yes (If needed, e	xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site	map showing sam	pling point locatio	ns, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No		
	No	Is the Sampled Area	
	No	within a Wetland?	Yes No
Remarks:			
VECETA TION			
VEGETATION	Absolute Domi	nant Indicator Domin	nance Test worksheet:
Tree Stratum (Use scientific names.)	% Cover Spec	ice? Statue	er of Dominant Species
1			Are OBL, FACW, or FAC: (A)
2		Total I	Number of Dominant
3			es Across All Strata: (B)
4-	<u> </u>	—— Percei	nt of Dominant Species
Tota Sapling/Shrub Stratum	al Cover:		Are OBL, FACW, or FAC: 100% (A/B)
1		Preva	lence Index worksheet:
2.			otal % Cover of: Multiply by:
3			pecies x 1 =
4		I	/ species x 2 =
5		1	pecies x 3 =
Tota	al Cover:	FACU	species x 4 =
1. Juneus achreticus var mexi	CALLS OCOL V	OBL UPL S	pecies x 5 =
2. Distroblis spicate	120/2 1	FACW Colum	nn Totals: (A) (B)
3		1 .	Prevalence Index = B/A =
4		11	phytic Vegetation Indicators:
5			ominance Test is >50%
6.			revalence Index is ≤3.01
7.			lorphological Adaptations (Provide supporting
			data in Remarks or on a separate sheet)
	al Cover:	— P	roblematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum		1 _{India}	ators of hydric soil and wetland hydrology must
1		he pre	
2	al Cover:		pphytic /
		Veget	ation
% Bare Ground in Herb Stratum	% Cover of Biotic Crust	Prese	nt? Yes V No
Remarks:			
Site dominated by vig	orous stand	f Juneus.	
	,		

								Sampling Point:
Profile Desci	ription: (Describe t	to the depth	needed to docu	ıment the l	ndicator	or confin	m the absence	of Indicators.)
Depth	Matrix			ox Features				Demondra
(inches)	Color (moist)	<u>%</u> -	Color (moist)		Type'	Loc ²	Texture	Remarks
0-211 AI	10424/1	60_					Gay loan	1/2" fibric net
	104R3/2	40						
2-711 kg	2.5 YR-5/1	85%	5YR5/6	5%		_M_		
	2		7.54R5/6	10%	C	Μ	V	
7-12/1 0	10YR 5/3	<u> </u>	104R 4/6	25%	<u></u>	M	£ ¿	
1-12-			10 114 70					
	-							
							-	
	ncentration, D=Dep					e Lining,	RC=Root Chann	
Hydric Soil I	ndicators: (Applic	able to all L	RRs, unless oth	erwise not	ed.)			for Problematic Hydric Soils ³ :
Histosol	` '		Sandy Re					Muck (A9) (LRR C)
	ipedon (A2)		Stripped N	лаtпх (S6) ucky Minera	1/51\			fluck (A10) (LRR B) ed Vertic (F18)
Black His	stic (A3) n Sulfide (A4)			eyed Matrix				arent Material (TF2)
	l Layers (A5) (LRR (C)	Depleted		(/			(Explain in Remarks)
	ck (A9) (LRR D)	-,		rk Surface ((F6)			,
	l Below Dark Surfac	e (A11)	Depleted	Dark Surfac	e (F7)			
Thick Da	rk Surface (A12)			pressions (F8)		3	
	lucky Mineral (S1)		Vernal Po	ols (F9)				of hydrophytic vegetation and
Sandy G	lleyed Matrix (S4)						welland	hydrology must be present.
M4-1-41 1	(!£						1	
	ayer (if present):	,						
Туре:	<u> </u>						Livedria Cali	Bragant2 Vos No
Type: Depth (inc	ches):			,,,, , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				Present? Yes No
Туре:	ches):			262440	£3	ahana		
Type: Depth (inc	ches):	= heiti	- valt 35 bs	cause	of 3	ahron		Present? Yes No Doesn't meet '87 manua
Type: Depth (inc	ches):	= heiti	- valt 35 bs	ecause Com A	of 3	ahron		
Type: Depth (inc	ches):	= heiti	- valt 35 bs	ecause low A	of 3 hopies	chaon		
Type: Depth (inc	Meets F Deceme of	= heiti	- valt 35 bs	ecause Cow A	. of 3 hopiso	chaon		
Type: Depth (inc Remarks:	Meets F because of	3 buti	- valt 35 bs	ecause low A	of 3 hopiso	chaon N.	raat 71.	
Type: Depth (inc Remarks: HYDROLO Wetland Hyd	Meets F because of GY drology Indicators:	=3 buti	vot 35 be	ecause Cow A	of 3 hopiso	chpon	secon	Doesn't meet '87 manu
Type: Depth (inc Remarks: HYDROLO Wetland Hyd Primary Indic	Meets F Decense of GY drology Indicators:	=3 buti	vot 35 be	Com A	of 3 hopiso	chron	Secor 	Doesn't meet '87 manu ndary Indicators (2 or more required) Vater Marks (B1) (Riverine)
Type: Depth (inc Remarks: HYDROLO Wetland Hyd Primary Indic Surface	Meets F because of GY drology Indicators: cators (any one indicators) Water (A1)	=3 buti	ient)	St (B11)	of 3 hopiso	chron	Secon W S	Doesn't meet '87 manuary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Type: Depth (incomplete incomplete inc	Meets F because of GY drology Indicators: cators (any one indicators) Water (A1) ater Table (A2)	=3 buti	sient) Salt Cru Biotic Cr	St (B11)	hoptoo	chron	Secon V S	Doesn't meet '87 manu ndary Indicators (2 or more required) Vater Marks (B1) (Riverine)
Type: Depth (inc Remarks: HYDROLO Wetland Hyc Primary Indic Surface High Wa Saturatio	Meets F December of GY drology Indicators: cators (any one indic Water (A1) ater Table (A2) on (A3)	3 but, -3 cho cho	sient) Salt Cru Biotic Cr Aquatic	St (B11)	kopłzo es (B13)	chpon	Secon V S D	Doesn't meet '87 manuary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine)
Type: Depth (inc Remarks: HYDROLO Wetland Hyd Primary Indic Surface High Wa Saturatic Water M	Meets F because of GY drology Indicators: cators (any one indicators) Water (A1) ater Table (A2)	3 but, -3 cho cator is suffice	sient) Salt Cru Aquatic Aydroge	st (B11) rust (B12) Invertebrate	es (B13)	v	Secor v S	Doesn't meet '87 manuary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Type: Depth (inc Remarks: HYDROLO Wetland Hyd Primary Indic Surface High Wa Saturatio Water M Sedimer	Meets F Decembe of GY drology Indicators: cators (any one indic Water (A1) uter Table (A2) on (A3) larks (B1) (Nonriver	=3 but) =3 cho cator is suffice	cient) Salt Cru Biotic Cr Aquatic Hydroge V Oxidized	st (B11) rust (B12) Invertebrate en Sulfide O	es (B13) dor (C1) eres along	Living R	Secor V S D	Doesn't meet '87 manual '87 manua
Type: Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep	Ches):	=3 but) =3 cho cator is suffice	cient) Salt Cru Biotic Cr Aquatic Hydroge Voxidized Presence	st (B11) rust (B12) Invertebrate en Sulfide O	es (B13) dor (C1) eres along	Living R	Secon W S D	Doesn't meet '87 manual
Type:	ches):	3 but) - 3 chro cator is suffice rine) priverine) prine)	cient) Salt Cru Biotic Cr Aquatic Iydroge V Oxidized Presenc Recent I	st (B11) rust (B12) Invertebrate on Sulfide O d Rhizosphe te of Reduce	es (B13) dor (C1) eres along ed Iron (C	Living R	Second 7". Second 7". Second Property of the second seco	Doesn't meet '87 manual malary Indicators (2 or more required) Vater Marks (B1) (Riverine) Stediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Originage Patterns (B10) Ory-Season Water Table (C2) Chin Muck Surface (C7) Crayfish Burrows (C8) Staturation Visible on Aerial Imagery (CS) Shallow Aquitard (D3)
Type:	ches): Meets F December of GY drology Indicators: cators (any one indicators) water (A1) ater Table (A2) on (A3) larks (B1) (Nonriver) at Deposits (B2) (No cosits (B3) (Nonriver) Soil Cracks (B6)	3 but) - 3 chro cator is suffice rine) priverine) prine)	cient) Salt Cru Biotic Cr Aquatic Iydroge V Oxidized Presenc Recent I	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe ee of Reduct	es (B13) dor (C1) eres along ed Iron (C	Living R	Second 7". Second 7". Second Property of the second seco	Doesn't meet '87 manual material (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Originage Patterns (B10) Ory-Season Water Table (C2) Thin Muck Surface (C7) Orayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Type:	Ches): Meets F December of GY drology Indicators: cators (any one indicators) cato	3 but) - 3 chro cator is suffice rine) priverine) prine)	sient) Salt Cru Biotic Cr Aquatic Iydroge V Oxidized Presenc Recent I Other (E	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce fron Reduct	es (B13) dor (C1) eres along ed Iron (C ion in Plot emarks)	Living Re	Second 7". Second 7". Second Property of the second seco	Doesn't meet '87 manual malary Indicators (2 or more required) Vater Marks (B1) (Riverine) Stediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Originage Patterns (B10) Ory-Season Water Table (C2) Chin Muck Surface (C7) Crayfish Burrows (C8) Staturation Visible on Aerial Imagery (CS) Shallow Aquitard (D3)
Type: Depth (inc Remarks: HYDROLO Wetland Hyc Primary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Surface Inundati Water-S	Ches):	rine) pariverine) prine) lmagery (B7	cient) Salt Cru Biotic Cr Aquatic Hydroge Voxidized Presenc Recent I Other (E	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduct fron Reduct explain in Re	es (B13) dor (C1) eres along ed Iron (C ion in Plov emarks)	Living Rd	Second 7". Second 7". Second Property of the second seco	Doesn't meet '87 manual malary Indicators (2 or more required) Vater Marks (B1) (Riverine) Stediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Originage Patterns (B10) Ory-Season Water Table (C2) Chin Muck Surface (C7) Crayfish Burrows (C8) Staturation Visible on Aerial Imagery (CS) Shallow Aquitard (D3)
Type: Depth (inc Remarks: HYDROLO Wetland Hyd Surface High Wa Saturatio Water M Sedimer Drift Dep Surface Inundati Water-S Field Obser	ches):	rine) pariverine) prine) lmagery (B7	sient) Salt Cru Biotic Cr Aquatic Iydroge V Oxidized Presenc Recent I Other (E	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduct fron Reduct explain in Re	es (B13) dor (C1) eres along ed Iron (C ion in Plov emarks)	Living R44) wed Soils	Secon Secon Secon Secon Comparison Secon Comparison Secon	Doesn't meet '87 manual malary Indicators (2 or more required) Vater Marks (B1) (Riverine) Stediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Originage Patterns (B10) Ory-Season Water Table (C2) Chin Muck Surface (C7) Crayfish Burrows (C8) Staturation Visible on Aerial Imagery (CS) Shallow Aquitard (D3)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project/Site: La Joya #2	(City/Coun	ty: <u> </u>	240	_ Sampling Date:	1-16-2008
Applicant/Owner: New Mexico Gam	et Fish			State: ////	Sampling Point:	10-4
Investigator(s): Here, Hill, Vasi	las Scheffe	Section, 1	Γownship, Ran	nge:	A Marine	gran i
Landform (hillslope, terrace, etc.): Alluvia	al flat	Local reli	ef (concave, c	convex, none): Slight	TIV CONVEX Slop	e (%): <u>0-1%</u>
Subregion (LRR):	Lat: <u>3</u> 4	10 ZD.	898	Long: 1060 51.91	Datum	n:
Soil Map Unit Name: Typic Ustit	Invents		Α	NWI classific	cation:	
Are climatic / hydrologic conditions on the site	typical for this time of year	ar? Yes	√ No	(If no, explain in F	Remarks.)	_
Are Vegetation, Soil, or Hydro						/ No
Are Vegetation, Soil, or Hydro						
SUMMARY OF FINDINGS – Attach						atures, etc.
Hydrophytic Vegetation Present? Yes	es No		41 014	ā		
Hydric Soil Present? Ye	es No	1	the Sampled thin a Wetlan		No	
Wetland Hydrology Present? Ye	es No	401	umi a vvenan	ld: 163		
Remarks:						
VEGETATION						
			nt Indicator	Dominance Test wor	ksheet:	
<u>Tree Stratum</u> (Use scientific names.)			Status	Number of Dominant S	Species	(4)
1				That Are OBL, FACW,	or FAC:	(A)
2				Total Number of Domi	~~~	(B)
34				Species Across All Str	ata.	(D)
	Total Cover:			Percent of Dominant S That Are OBL, FACW,		% (A/B)
Sapling/Shrub Stratum	Total Cover:				romania de la composición della composición dell	(, , , , ,
1				Prevalence Index wo		, by e
2				OBL species	<u>Multiply</u>	1
3				FACW species		1
5.				FAC species		
	Total Cover:			FACU species		
Herb Stratum			F=2. 1	UPL species	x 5 =	
1. Distichlis spicata	50%		FACW	Column Totals:	(A)	(B)
	50%		08-	Prevalence inde	x = B/A =	
3 4				Hydrophytic Vegetati		
5				Dominance Test is	s >50%	
6.				Prevalence Index		
7				Morphological Ada	aptations1 (Provide s	supporting
8				Problematic Hydro	ks or on a separate s	, i
186a d 186a - Ota tara	Total Cover: 60%	-		FLODIEHIAGE HYDR	Anytic vederation	(Ελριαίτι)
Woody Vine Stratum				¹ Indicators of hydric so	oil and wetland hydro	ology must
1				be present.		
2	Total Cover: 100%	,		Hydrophytic		
% Bare Ground in Herb Stratum	Of Course of Dietic C	-	NO/2	Vegetation	es \ No	
	% Cover of Biotic C	iusi	<u> </u>	Present? Ye	es No	Ť
Remarks: Y8" Hick salt ca	L "H = -4"		eg vitte			
18" THICK Salt CR	ust on the sit	K-10				

	cription: (Describe t	to the depi	u uesasa ro ancai	inem men	idicator ,	or comm	iii tiie abseilee	or manutaron,
Depth	Matrix			x Features		1.22	Tartum	Percentage 1
(inches)	Color (moist)	<u>%</u>	Color (moist)		Type'	Loc²	<u>Texture</u>	Remarks
0-411	10YR4/3		104R 5/4	10%	<u> </u>	M	claylour	
4-2411	104R.4/3	85%	7.5 YR 4/4	10%	<u> </u>	M	<u>Ifs</u>	Comma, Distinct
		1 1 1	10YR 3/2	5%	_C_	M	1F-5	Commons faint
			v				4 1	*
				· · · · · · · · · · · · · · · · · · ·	***************************************	***************************************		
	. <u> </u>				***************************************			
				<u> </u>				
				2				
	Concentration, D=Depl					e Lining,	RC=Root Chan	nei, м=матгіх. for Problematic Hydric Solls³:
•		abie to ali			,			Muck (A9) (LRR C)
Histoso	Epipedon (A2)		Sandy Red Stripped M					Muck (A10) (LRR B)
	listic (A3)		Loamy Mu		(F1)			ed Vertic (F18)
	en Sulfide (A4)		Loamy Gle	-				arent Material (TF2)
	ed Layers (A5) (LRR C	C)	Depleted M		` ,			(Explain in Remarks)
	uck (A9) (LRR D)		Redox Dar		F6)			
	ed Below Dark Surface	e (A11)	Depleted D	ark Surface	e (F7)			
	Park Surface (A12)			oressions (F	F8)		9.	
	Mucky Mineral (S1)		Vernal Poo	ds (F9)				of hydrophytic vegetation and
	Gleyed Matrix (S4)						wetland	I hydrology must be present.
	Layer (if present):							
Type:		· · · · · · · · · · · · · · · · · · ·					Unidala Call	Present? Yes No
	nches):				.,			
Remarks:	Sittement		Chiana of	3 does	wh ma	et ei	Her more	el so Tristube
*		and and				•		
C	Lette well bear.		1 de latera	mines b	. 1010	en:1.8		-
	xector ville	inspess	I to deter	mive h	ydeic	soils	•	al , so Isis tube
	XXXXX WIII	asses	de deter	mine h	ydeic	soils	•	
HYDROLO		i espeso	d to dotep	mive h	y deic	soils	•	
			O to doter	mine h	ydeic	soils		ndary Indicators (2 or more required)
Wetland Hy	OGY			mine h	ydeic	soils	Seco	
Wetland Hy	OGY ydrology Indicators:				ydeic	soils	<u>Seco</u>	ndary Indicators (2 or more required)
Wetland Hy Primary Ind Surface	OGY ydrology Indicators: licators (any one indic		icient)	it (B11)	ydeic	soils	<u>Seco</u> V S	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine)
Wetland Hy Primary Ind Surface High W	OGY ydrology Indicators: licators (any one indic e Water (A1)		icient) Salt Crus Biotic Cru	it (B11)		soils	<u>Seco</u> V S	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Wetland Hy Primary Ind Surface High W Saturat	OGY ydrology Indicators: licators (any one indic e Water (A1) /ater Table (A2)	eator is suff	icient) Salt Crus Biotic Cru Aquatic Ir	et (B11) ust (B12)	s _, (B13)	soils	<u>Seco</u> V S C	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine)
Wetland Hy Primary Ind Surface High W Saturat Water I	OGY ydrology Indicators: licators (any one indic e Water (A1) /ater Table (A2) tion (A3)	ator is suff	icient) Salt Crus Biotic Cru Aquatic In Hydroger	t (B11) ust (B12) nvertebrate n Sulfide Oc	s,(B13) dor (C1)		<u>Secon</u> V S C	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime	OGY ydrology Indicators: licators (any one indic e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver	ator is suff ine) nriverine)	icient) Salt Crus Biotic Cru Aquatic In Hydroger Oxidized	t (B11) ust (B12) nvertebrate n Sulfide Oc	s (B13) lợr (C1) res along	Living R	Secon	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime	ogy ydrology Indicators: licators (any one indic e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (No	ator is suff ine) nriverine)	Salt Crus Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized Presence	ot (B11) ust (B12) nyvertebrate ny Sulfide Oo Rhizosphe	s,(B13) dor (C1) res along d Iron (C	Living R	Secondary Secondary V	ndary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Thin Muck Surface (C7)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De	ydrology Indicators: licators (any one indic e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (Noneposits (B3) (Nonriver	eator is suffi ine) nriverine) rine)	Salt Crus Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized Presence Recent Ir	et (B11) ust (B12) pyertebrate n Sulfide Oc Rhizosphele e of Reduce	s.(B13) dor (C1) res along d Iron (C on in Plov	Living R	Secondary Secondary V S C C coots (C3) T C (C6) S	ndary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Oraninage Patterns (B10) Ory-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inundar	ydrology Indicators: licators (any one indic e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (No eposits (B3) (Nonriver e Soil Cracks (B6)	eator is suffi ine) nriverine) rine)	Salt Crus Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized Presence Recent Ir	ot (B11) ust (B12) pvertebrate n Sulfide Oc Rhizosphe e of Reduce	s.(B13) dor (C1) res along d Iron (C on in Plov	Living R	Secondary Second	ndary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inundar	ydrology Indicators: licators (any one indicate Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverent Deposits (B2) (Nonriveres) e Soil Cracks (B6) tion Visible on Aerial I Stained Leaves (B9)	eator is suffi ine) nriverine) rine)	Salt Crus Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized Presence Recent Ir	ot (B11) ust (B12) pvertebrate n Sulfide Oc Rhizosphe e of Reduce	s.(B13) dor (C1) res along d Iron (C on in Plov	Living R	Secondary Second	ndary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Oraniage Patterns (B10) Ory-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inunda Water-Field Obse	ydrology Indicators: licators (any one indic e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (Non eposits (B3) (Nonriver e Soil Cracks (B6) tion Visible on Aerial I Stained Leaves (B9) ervations:	eator is suffi ine) nriverine) rine)	Salt Crus Biotic Cru Aquatic In Hydroger Oxidized Presence Recent Ir Other (Ex	ot (B11) ust (B12) pvertebrate n Sulfide Oc Rhizosphe e of Reduce	s.(B13) dor (C1) res along d Iron (C on in Plov	Living R	Secondary Second	ndary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Oraniage Patterns (B10) Ory-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inunda Water- Field Obse	ydrology Indicators: licators (any one indic e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (Non eposits (B3) (Nonriver e Soil Cracks (B6) tion Visible on Aerial I Stained Leaves (B9) ervations: ater Present?	rine) nriverine) rine) Imagery (B	Salt Crus Salt Crus Biotic Cru Aquatic In Hydroger Oxidized Presence Recent Ir Other (Ex	et (B11) ust (B12) pyertebrate p Sulfide Oc Rhizosphe e of Reduce con Reduction kplain in Re	s, (B13) dor (C1) res along d Iron (C on in Plov marks)	Living Rd4) wed Soils	Secondary Second	ndary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Oraniage Patterns (B10) Ory-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
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Project/Site: Sen Gerowino	City/County: <u>500</u>	900 Sampling Date: 6-26-200
Applicant/Owner: <u>NM gane4 ASh</u>		State: NM Sampling Point:
Investigator(s): KonSckofe BobHill Tim	Cring Section, Township, F	Range: CONPX
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave	e, convex, none): Slope (%):
Subregion (LRR):		Long: 106° 52, 310 Datum:
Soil Map Unit Name: Tupic Ostitiouruts	, 0 to 2 perout	S O PC NWI classification:
Are climatic / hydrologic conditions on the site typical for thi	is time of year? Yes <u>X</u> No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed? 🎾 🛚 Are	e "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology	naturally problematic? (If	needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing sampling point	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N	ls the Sample	and Area
Hydric Soil Present? Yes N	i is the campi	
Wetland Hydrology Present? Yes N	lo	
Remarks:		
		İ
VEGETATION – Use scientific names of plan	ıts.	
	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Species? Status	Number of Deminent Charles
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strate (B)
3		Species Across All Strata: (B)
4.	= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: 106 (A/B)
Sapling/Shrub Stratum (Plot size:)	- Total Cover	That Are OBL, FACW, or FAC: 100 (A/B)
1.		Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3		OBL species x1=
4		FACW species x 2 = FAC species x 3 =
0	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size:)	- Total Cover	UPL species x 5 =
1. <u>Cressa</u>	20 1 FACW	
2. Edward Ruma	10 4 OBL	-
3. 3.15		Prevalence Index = B/A =
4		Hydrophytic Vegetation Indicators: Dominance Test is >50%
5		Prevalence Index is ≤3.01
6. 7.		Morphological Adaptations¹ (Provide supporting
8.		data in Remarks or on a separate sheet)
	70 = Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	-	The ground of the state of the
1		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2	= Total Cover	Hydrophytic
30		Vegetation
	of Biotic Crust	Present? Yes No No
Remarks:		

US Army Corps of Engineers

Arid West - Version

Sampling	Point:	11-1
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 -	

Depth Matrix Redox Features (inches) Color (moist) % Color (moist) % Type¹ L	.oc² Texture	Remarks
1.54R3/3 10d/6	Clay	
4-6" 7.5 XR 44 10046		
-15" 7.5 YR4/2 100% 7.5 XR-5/6	<u> </u>	

		materials and a discount of the property of th
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sa	and Grains	Location: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicat	ors for Problematic Hydric Soils ³ :
Histosol (A1) Sandy Redox (S5)		m Muck (A9) (LRR C)
Histic Epipedon (A2) Stripped Matrix (S6)		m Muck (A10) (LRR B)
Black Histic (A3) Loamy Mucky Mineral (F1)	Re	duced Vertic (F18)
Loamy Gleyed Matrix (F2)	**********	d Parent Material (TF2)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)	Oth	ner (Explain in Remarks)
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)		
Depleted Below Dark Surface (A11)	³ Indicat	ors of hydrophytic vegetation and
Sandy Mucky Mineral (S1) — Vernal Pools (F9)		and hydrology must be present,
Sandy Gleyed Matrix (S4)		s disturbed or problematic.
estrictive Layer (if present):		
Type:		
Depth (inches):	Hydric S	Soil Present? Yes No
	Hydric S	Soil Present? Yes No
Mo 87 manual indicator	Hydric S	Soil Present? Yes No
Mo 87 manual indicator	Hydric S	Soil Present? Yes No
emarks: No 87 Manual indicator (DROLOGY Vetland Hydrology Indicators:		
emarks: No 87 manual indicator /DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply)		condary Indicators (2 or more required)
PROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11)		condary Indicators (2 or more required) Water Marks (B1) (Riverine)
PROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Solit Crust (B12)		condary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
PROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Aquatic Invertebrates (B13)		condary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
PROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Marks (B1) (Nonriverine) Advantage (Nonriverine)	Se	condary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Well Advanced Carbon Morriverine) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Livir	<u>Se</u> ng Roots (C3)	Condary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
PROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4)	Se	Condary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
PROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled So	Se	Condary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
PROLOGY Fetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled So Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)	ng Roots (C3)	Condary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
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Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Wetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Salt Crust (B11) Salt Crust (B12) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livir Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Unificatory Salt Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livir Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7) Other (Explain in Remarks) Water-Stained Leaves (B9) Depth (inches):	ng Roots (C3)	Condary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
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VPROLOGY Vetland Hydrology Indicators: Vimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Vater Table Present? Ves No Depth (inches): Saturation Present? Ves No Depth (inches): Saturation Present? Ves No Depth (inches): Saturation Present? Ves No Depth (inches): Saturation Present? Ves No Depth (inches): Saturation Present? Ves No Depth (inches): Saturation Present? Ves No Depth (inches): Saturation Present? Ves No Depth (inches):	Seng Roots (C3)	Condary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Proposition (Particular Section Presents (Primary Indicators (Monriverine) Setiment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water Table Present? Water Table (Particular Section (Particular Se	Seng Roots (C3)	Condary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Proposition (Ca) Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): No No No No No No	Seng Roots (C3)	Condary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
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Vetland Hydrology Indicators: Irimary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9) Vater Table Present? Ves No Depth (inches): Surface Water Present? Ves No Depth (inches): Surface Scoribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect	ng Roots (C3) pils (C6) Wetland Hydro tions), if available	Condary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
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Project/Site: San Gennin	10	(City/County	Sóc	0(10	Sampling Date: 6-26	-208
Applicant/Owner: NM Cish 4	Game				State: NM	Sampling Point: 1/-2	
Investigator(s): Yor Schalle Bob	411. Tim Her	irahn					
Landform (hillslope, terrace, etc.): Flo						<u> </u>	
Subregion (LRR):	8					308 Datum:	
Soil Map Unit Name: Tupic USH	8 1. 8	-70					
, 11		€		**			
Are climatic / hydrologic conditions on the							
Are Vegetation, Soil, or Hy							
Are Vegetation, Soil, or Hy	ydrologyn	aturally pro	blematic?	(If ne	eded, explain any answ	vers in Remarks.)	
SUMMARY OF FINDINGS - Att	ach site map s	showing	samplin	g point lo	ocations, transect	s, important features,	etc.
Hydrophytic Vegetation Present?	Yes No		le th	e Sampled	Δroa		
Hydric Soil Present?	Yes No	D	i	in a Wetlan		No	
Wetland Hydrology Present?	YesNo	·	VVIET	iii a motiuii	ui 103		
VECETATION							
VEGETATION		- Al . I . I				at at a viv	
Tree Stratum (Use scientific names.)		Absolute <u>% Cover</u>	Dominant Species?		Dominance Test wo Number of Dominant		
1					That Are OBL, FACM		(A)
2					Total Number of Dem	vinont «S	
3					Total Number of Dom Species Across All St	/	B)
4	************************************				Percent of Dominant	Species	
Sapling/Shrub Stratum	Total Cover	:	:		That Are OBL, FACW		A/B)
1			***************************************	***************************************	Prevalence Index w		
2		·				: Multiply by:	
3		. 			-	x 1 =	
4.						x 2 =	
5			***************************************			x 3 =	
Herb Stratum	Total Cover					x 4 = x 5 =	
1. Rumex		10_	<u> </u>	OBL	Column Totals:		(B)
2. Cressa		5	4	FACIN			(=)
3					Prevalence Inde	ex = B/A =	
4			***************************************		Hydrophytic Vegeta		
5					Dominance Test		
6					Prevalence Index		
7						daptations¹ (Provide supporting rks or on a separate sheet)	g
8						rophytic Vegetation ¹ (Explain))
Woody Vine Stratum	Total Cover	: _15					
1					¹ Indicators of hydric s	soil and wetland hydrology mu	ıst
2.					be present.	-	
	Total Cover	•			Hydrophytic Vegetation		
% Bare Ground in Herb Stratum	% Cover	of Biotic C	rust			/es No	
Remarks:							

Sampling Point:

			confirm the absence of indicators.)
Depth	Matrix Color (moist) %	Redox Features Color (moist) % Type¹ L	oc² Texture Remarks
(inches)	Color (moist) %	Cold (moist) 76 Type t	Sattepust
	101K 4 5		Clay loom
74"	10 1K 773		
14-41	7.542 413		
4-1311	7.5YR 42	7.54R 5/6 20% C	M
¹Type: C=Cc	oncentration, D=Depletion, RM=		ining, RC=Root Channel, M=Matrix.
Hydric Soil I	ndicators: (Applicable to all I	LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils':
Histosol	` '	Sandy Redox (S5)	1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)
	ipedon (A2)	Stripped Matrix (S6)	Reduced Vertic (F18)
Black His	• •	Loamy Mucky Mineral (F1)	Red Parent Material (TF2)
	n Sulfide (A4)	Loamy Gleyed Matrix (F2)	
	Layers (A5) (LRR C)	✓ Depleted Matrix (F3)	Other (Explain in Remarks)
	ck (A9) (LRR D)	Redox Dark Surface (F6)	
	Below Dark Surface (A11)	Depleted Dark Surface (F7)	
	ark Surface (A12)	Redox Depressions (F8)	31 - 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
	fucky Mineral (S1)	Vernal Pools (F9)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present.
	Bleyed Matrix (S4) Layer (if present):		wouldn't hydrology made be process.
Type:	, , ,		
	ches):		Hydric Soil Present? Yes V No
Kemarks.	1.04.		
			1 - 1 0-0
C	mon aspertus	+ common saft cayste	els in declated.
No 87	manual indice	temmor satteryste	als in declad.
		temmor saff cayste	
HYDROLO		temmor saff cayste	Secondary Indicators (2 or more required)
HYDROLO Wetland Hy	GY drology Indicators:		
HYDROLO Wetland Hy Primary Indi	GY drology Indicators: cators (any one indicator is suffi	icient)	Secondary Indicators (2 or more required)
HYDROLO Wetland Hy Primary India	GY drology Indicators: cators (any one indicator is suffi Water (A1)	icient) Salt Crust (B11)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
HYDROLO Wetland Hy Primary India Surface High Wa	GY drology Indicators: cators (any one indicator is suffi Water (A1) ater Table (A2)	icient) Salt Crust (B11) Biotic Crust (B12)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
HYDROLO Wetland Hy Primary India Surface High Wa	drology Indicators: cators (any one indicator is suffi Water (A1) ater Table (A2) on (A3)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water M	GY drology Indicators: cators (any one indicator is suffi Water (A1) ater Table (A2) on (A3) farks (B1) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
HYDROLO Wetland Hy Primary India Surface High Wa Saturati Water M	drology Indicators: cators (any one indicator is suffi Water (A1) ater Table (A2) on (A3) farks (B1) (Nonriverine) nt Deposits (B2) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) ving Roots (C3) Thin Muck Surface (C7)
HYDROLO Wetland Hy Primary India Surface High Wa Saturati Water M Sedime Drift De	drology Indicators: cators (any one indicator is sufficators (A1) ater Table (A2) on (A3) Marks (B1) (Nonriverine) nt Deposits (B2) (Nonriverine) posits (B3) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Lir Presence of Reduced Iron (C4)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) ving Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8)
HYDROLO Wetland Hy Primary India Surface High Wa Saturati Water M Sedime Drift De Surface	drology Indicators: cators (any one indicator is sufficators (any one indicator is sufficator (A1) ater Table (A2) on (A3) Marks (B1) (Nonriverine) nt Deposits (B2) (Nonriverine) posits (B3) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Plower	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) ving Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) d Soils (C6) Saturation Visible on Aerial Imagery (C9)
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HYDROLO Wetland Hy Primary India Surface High Wa Saturati Water M Sedime Drift De Surface Inundat Water-S Field Obser Surface Wa Water Table Saturation F (includes ca Describe Re	drology Indicators: cators (any one indicator is sufficators (any one indicator is sufficator) Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonriverine) Int Deposits (B2) (Nonriverine) posits (B3) (Nonriverine) I Soil Cracks (B6) I ion Visible on Aerial Imagery (Bestained Leaves (B9) I rvations: I ter Present? I e Present? I yes Present? I yes Present? I yes Present? I yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Plower Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches): Onitoring well, aerial photos, previous inspiration	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Ving Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) d Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No ections), if available:
HYDROLO Wetland Hy Primary India Surface High Wa Saturati Water M Sedime Drift De Surface Inundat Water-S Field Obser Surface Wa Water Table Saturation F (includes ca Describe Re	drology Indicators: cators (any one indicator is sufficators (any one indicator is sufficator) Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonriverine) Int Deposits (B2) (Nonriverine) posits (B3) (Nonriverine) I Soil Cracks (B6) I ion Visible on Aerial Imagery (Bestained Leaves (B9) I rvations: I ter Present? I e Present? I yes Present? I yes Present? I yes Present? I yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Plower Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches): Onitoring well, aerial photos, previous inspiration	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Ving Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) d Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No ections), if available:
HYDROLO Wetland Hy Primary India Surface High Wa Saturati Water M Sedime Drift De Surface Inundat Water-S Field Obser Surface Wa Water Table Saturation F (includes ca Describe Re	drology Indicators: cators (any one indicator is sufficators (any one indicator is sufficator) Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonriverine) Int Deposits (B2) (Nonriverine) posits (B3) (Nonriverine) I Soil Cracks (B6) I ion Visible on Aerial Imagery (Bestained Leaves (B9) I rvations: I ter Present? I e Present? I yes Present? I yes Present? I yes Present? I yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes Present? Yes	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Plower Other (Explain in Remarks) No Depth (inches): No Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Ving Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) d Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No ections), if available:

Project/Site: Leonora Cartin	Weller	<u>d</u> (City/County	: San	tate County Sampling Date: 6/26
					State: NMO Sampling Point: 2-6
Investigator(s): Scheffe, Hill, Herr		- 4			
	a Lik				convex, none): Corcol Slope (%): 3
					Long: 166° 06.274 Datum:
					20 Flood NWI classification:
			*		•
Are climatic / hydrologic conditions on the site				1 65	
Are Vegetation, Soil, or Hydrol	ogysi	gnificantly	disturbed?	Are '	'Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrol	ogyna	turally pro	blematic?	(If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach	site map s	howing	samplin	g point l	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Ye	sNo)			
T	s No		1	e Sampled	nd? Yes No No
Wetland Hydrology Present? Yes	s No		With	iii a vvetiai	id ies No
Remarks:					

VEGETATION					
Tree Stratum (Use scientific names.)		Absolute	Dominant		Dominance Test worksheet:
1			Species?		Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2					Total Number of Dominant
3					Species Across All Strata: (B)
4					Percent of Dominant Species
Sapling/Shrub Stratum	Total Cover:				That Are OBL, FACW, or FAC: (A/B)
1. 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					Prevalence Index worksheet:
					Total % Cover of: Multiply by:
3.					OBL species x 1 =
4.					FACW species x 2 =
5			***************************************		FAC species x 3 =
	Total Cover:				FACU species x 4 =
Herb Stratum 1. Helianthus Ciliaris		- [Chr	UPL species x 5 =
2. Equisetum Laevigatu	.8.6	$\frac{3}{100}$		CACO	Column Totals: (A) (B)
3. Thucus Mexicana	M	+8		CAY	Prevalence Index = B/A =
4. Solidago ravadensis	A.	12		FAW	Hydrophytic Vegetation Indicators:
5.					Dominance Test is >50%
					Prevalence Index is ≤3.0¹
6					Morphological Adaptations ¹ (Provide supporting
8					data in Remarks or on a separate sheet)
	Total Cover:	35			Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum			•		,
1					¹ Indicators of hydric soil and wetland hydrology must be present.
2					
	Total Cover:				Hydrophytic Vegetation
% Bare Ground in Herb Stratum	% Cover	of Biotic C	rust		Present? Yes No
Remarks:					

Sampling Point: 2-6

Profile Description: (Describe to the depth needed to document the indicator or co	onfirm the absence of indicators.)
Depth Matrix Redox Features (inches) Color (moist) % Color (moist) % Type Lo	oc ² Texture Remarks
(inches) Color (moist) % Color (moist) % Type LC	Toam
	1 Sandy
10YR 3/2 75/0 5YR 1/6 3%	Elayt
2"-15" 104R 3/1 80% 7.54R 4446 20%	
7.5YR 2.5/3 Root fibers	<u> </u>
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lin	ning, RC=Root Channel, M=Matrix.
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. Location: FE=Fore En- lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	indicators for Problematic Hydric Solis ³ :
Histosol (A1) Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2) Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3) Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)	
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8)	
Sandy Mucky Mineral (S1) Vernal Pools (F9)	³ Indicators of hydrophytic vegetation and
Sandy Gleyed Matrix (S4)	wetland hydrology must be present.
Restrictive Layer (if present):	
-	
Type:	
Type: Depth (inches):	Hydric Soll Present? Yes No
Depth (inches):	Hydric Soil Present? Yes No
Depth (inches):Remarks:	Hydric Soil Present? Yes No
Depth (inches):	Hydric Soil Present? Yes No
Depth (inches): Remarks:	Hydric Soll Present? Yes No
Depth (inches):Remarks:	Hydric Soil Present? Yes No
Depth (inches): Remarks: \(\int \int \int \int \int \int \int \int	Hydric Soll Present? Yes No Secondary Indicators (2 or more required)
Depth (inches):	
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) ring Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) ring Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) ring Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) I Soils (C6) Saturation Visible on Aerial Imagery (C9)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Remarks: Color	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Remarks: Primary Indicators (any one indicator is sufficient) Surface Water (A1)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Remarks: Color	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No

Project/Site: Lepnora Curtin Wet	land o	city/County: Sav	ta Fe County Sampling Date: 6/26
	arden		State: NH Sampling Point: 2-5
Investigator(s): Key Schelle, Bob Hill, Jin	Clowinat	Socion Township D	ones:
Landform (hillslope, terrace, etc.): Hills de See	~ J		; convex, none): CONVEX Slope (%): 3
			Long: -/06.906.335 Datum:
Soil Map Unit Name: 172 Cuya Manager - Rive		1 7	*
Are climatic / hydrologic conditions on the site typical for t	his time of yea	ar? Yes <u> </u>	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology	significantly	disturbed? 🎾 Are	*Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology	_naturally prol	blematic? (If r	needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	sampling point	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No		
Hydric Soil Present? Yes		Is the Sample	
Wetland Hydrology Present? Yes		within a Wetla	and? Yes No
VEGETATION			
Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Indicator Species? Status	
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
3.			Total Number of Dominant Species Across All Strata: (B)
4			Percent of Dominant Species (/ _ //)
Total Cov	er:		That Are OBL, FACW, or FAC:
1			Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
3.			OBL species x 1 =
4			FACW species x 2 =
5			FAC species x 3 =
	er:		FACU species x 4 =
Herb Stratum			UPL species x 5 =
1. Juncus Mexicanus	20	012	- Column Totals: (A) (B)
2. Solidano Canadensis		FACU,	_
3. Equisetum Laevigation		FROY	Prevalence Index = B/A =
4. Polfentilla anserica		<u>orr</u>	Hydrophytic Vegetation Indicators:
5		·	Dominance Test is >50%
6			Prevalence Index is ≤3.01
7			Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
8			Problematic Hydrophytic Vegetation¹ (Explain)
Total Cov Woody Vine Stratum	rer: <u>50円</u> //		
1			¹ Indicators of hydric soil and wetland hydrology must
2			be present.
	 /er:		Hydrophytic
			Vegetation <
% Bare Ground in Herb Stratum % Cov	er of Biotic Cr	ust	Present? Yes No No
Remarks:			

Depth Matrix Redox Features (inches) Color (moist) % Color (moist) % Type ¹	Loc ² Texture Remarks
nches) Color (moist) % Color (moist) % Type	loam
	M Sordydayloan
0-151/2 7.5 YR 4/2 100% 7.5 YR 4/6	loan
ype: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore	Lining, RC=Root Channel, M=Matrix.
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2) Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
_ Black Histic (A3) Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3)	Red Parent Material (TF2) Other (Explain in Remarks)
_ Stratified Layers (A5) (LRR C)	Other (Explain in Normano)
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)	
Thick Dark Surface (A12) Redox Depressions (F8)	_
Sandy Mucky Mineral (S1) Vernal Pools (F9)	³ Indicators of hydrophytic vegetation and
_ Sandy Gleyed Matrix (S4)	wetland hydrology must be present.
estrictive Layer (if present):	
Type:	
	Hudria Call Present? Voc No
Depth (inches): Remarks: Mada F3 but not 1987 because 3	Hydric Soil Present? Yes No
emarks: Made F3 but not 1987 because 3	
emarks: Mate F3 but not 1987 because 3 (DROLOGY	
YDROLOGY Wetland Hydrology Indicators:	chame below A.
emarks: Mate F3 but not 1987 because 3 YDROLOGY Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
emarks: Made F3 but not 1987 because 3 /DROLOGY /etland Hydrology Indicators: rimary Indicators (any one indicator is sufficient)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
emarks: Made F3 but not 1987 because 3 /DROLOGY Vetland Hydrology Indicators: rimary Indicators (any one indicator is sufficient) Salt Crust (B11)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Primary Indicators (any one indicator is sufficient) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Marks 1987 because 3 Serious 1987 because 3 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) With Marks (B2) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Living Roots (C3) Thin Muck Surface (C7)
Print Peposits (B2) (Nonriverine) Print Peposits (B3) (Nonriverine) Print Peposits (B3) (Nonriverine) Print Peposits (B3) (Nonriverine) Print Peposits (B3) (Nonriverine) Presence of Reduced Iron (C4)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Living Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8)
Prince Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Water Marks (B6) Marks (B6)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Living Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) red Soils (C6) Saturation Visible on Aerial Imagery (C9)
YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Weter Marks (B1) (Nonriverine) Oxidized Rhizospheres along to the control of the control	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Living Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8)
Vertand Hydrology Indicators: Vimary Indicators (any one indicator is sufficient) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water Stained Leaves (B9)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Living Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
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