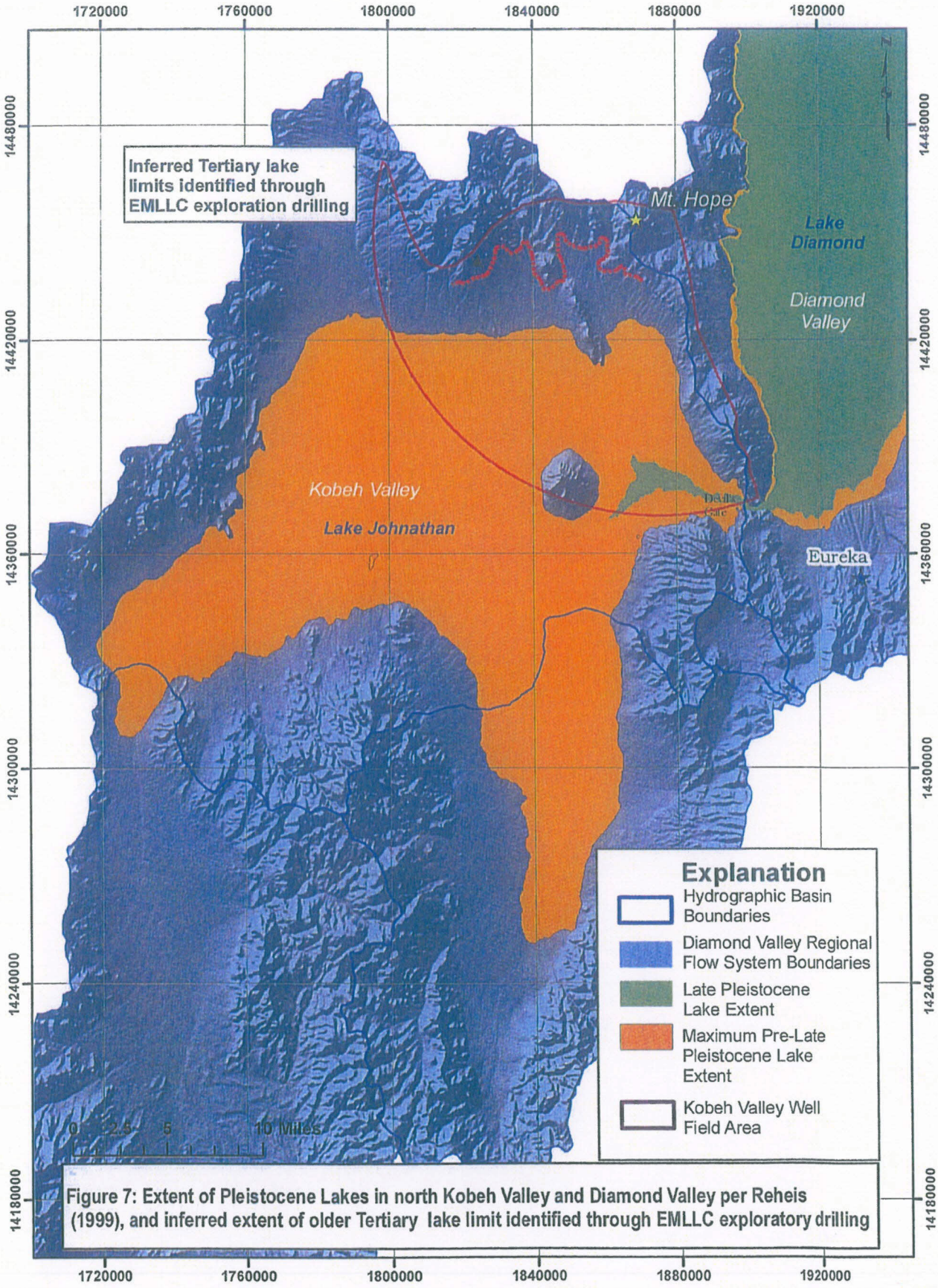

Figure 7: Extent of Pleistocene Lakes in north Kobeh Valley and Diamond Valley per Reheis (1999), and inferred extent of older Tertiary lake limit identified through EMLLC exploratory drilling

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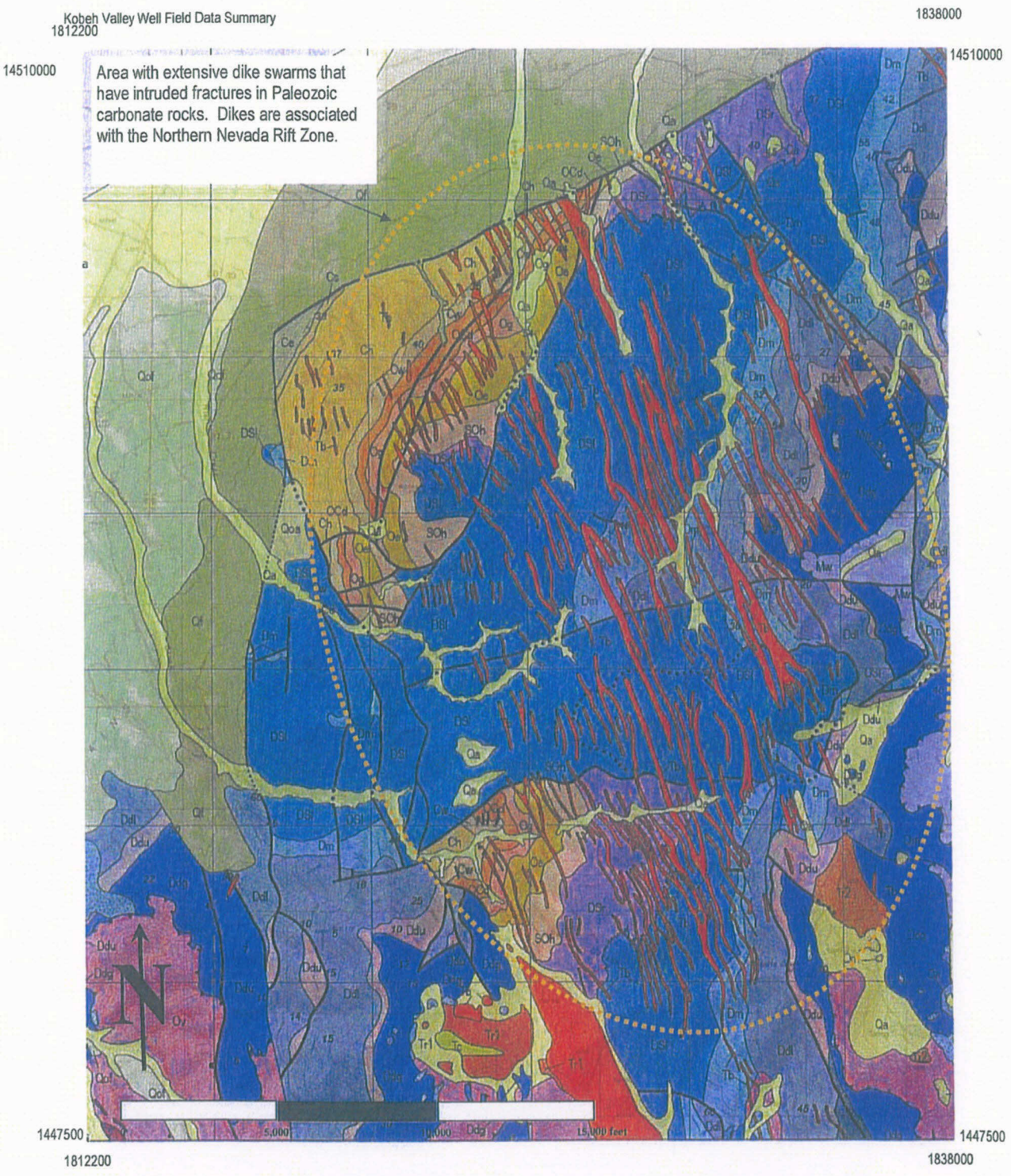


Figure 8. Dike Swarms in the North Central Roberts Mountains. Source: Cropped and Modified from Childress and Ferdock (2008)

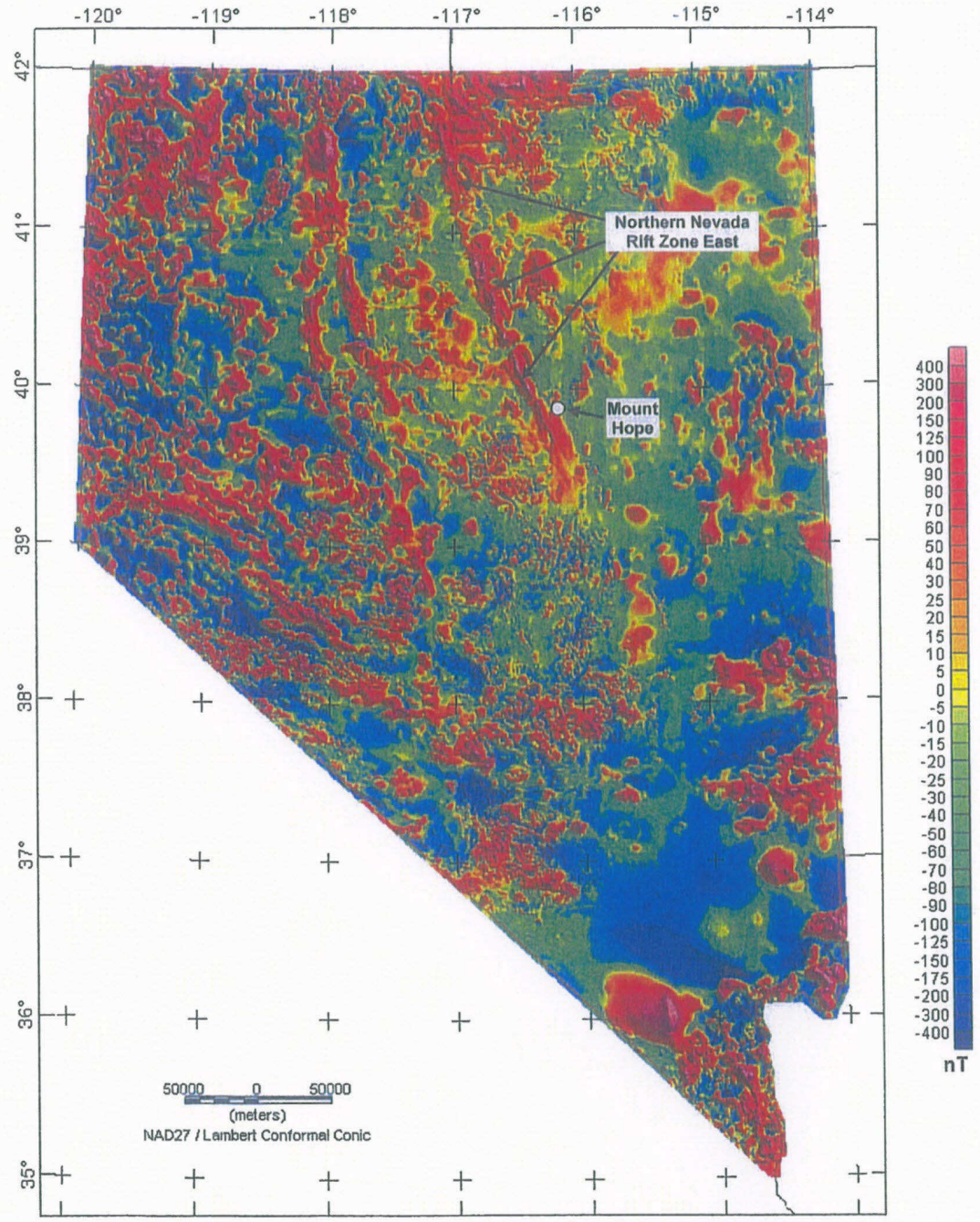


Figure 9. Location of the northern Nevada rift zone east as defined by Ponce and Glen (2002) Aeromagnetic map from Kucks, R.P., P. L. Hill, and D.A. Ponce, 2006, Nevada Composite Magnetic Anomaly Map (NE illumination)

Tumbusch and Plume (2006, p. 12) inferred that the Northern Nevada Rift may impede easterly flow in the carbonate rocks in Kobeh Valley, or northerly flow in Antelope Valley, forcing water upward into the overlying volcanic rocks and other valley-fill deposits. These authors place the western boundary of the northern Nevada rift as the mountain bounding fault on the west side of the Roberts Mountains and extend the rift zone southeastward into northern Antelope Valley almost as far east as the Sulfur Spring Range and Whistler Mountain.

3.3.3 Paleozoic Rocks

The Paleozoic sequence comprises more than 12,000 ft of sedimentary rocks and is summarized below in descending order from youngest to oldest. The uppermost Paleozoic unit, the Garden Valley Formation (Permian age), is limited to isolated outcroppings in the Rutebega Canyon and Lone Mountain areas of Kobeh Valley but is present in westernmost Diamond Valley in the area east of Mount Hope, and in the eastern part of the Garden Valley portion of Pine Valley. The Garden Valley Formation has four members including a basal sandy limestone and calcareous sandstone about 500 ft in thickness. This member is overlain by an 800 to 1,000 ft thick unit of conglomerate, sandy shale, and carbonaceous sandstone which is in turn overlain by about 1,000 ft of siliceous conglomerate. The uppermost member comprises about 550 ft of reddish-brown shale and conglomerate.

The Garden Valley Formation is underlain by rocks mapped as undivided Mississippian by Roberts et al (1967). This undivided Mississipian unit is limited to small outcroppings in the Devils Gate area and includes the Chainman Shale and Diamond Peak Formation (siltstone, sandstone, and conglomerate with lesser amounts of claystone and limestone). The Mississippian Webb Formation is often mapped with the Vinini Formation because of its similarity, and the fact that it has, in many locations, been structurally interleafed with the Vinini via complex thrust faulting (Finney et al, 2000). The unit has not been mapped consistently, or precisely differentiated from the Vinini Formation throughout Kobeh Valley or the Roberts Mountains.

The Devils Gate Limestone (Devonian age) outcrops in limited areas in the central Roberts Mountains, in a limited exposure on Lone Mountain, and in the Mahogany Hills and Devils Gate area. This unit is generally a thick bedded limestone with thinner limestone beds in portions of the middle and upper parts of the formation. The total thickness of the unit is more than 2,000 ft.

The Denay Limestone (Devonian age) outcrops throughout the Roberts Mountains and Kobeh Valley, and is composed of dark grey lime mudstones and grey limestones. The unit is often subdivided into and upper and lower member. The upper member is not present throughout the study area, but has been mapped in the central Roberts Mountains.

The McColley Canyon Formation (Devonian age) is comprised of dark carbonaceous mudstones and muddy limestones. The unit is present throughout the Roberts Mountains and Kobeh Valley, but has not been mapped in detail in the Sulphur Spring Range, or in the Diamond Mountains to the east.

The Nevada Formation (Devonian age) outcrops in the western Roberts Mountains, at Lone Mountain, and in an extensive area of the southern Sulphur Spring Range. This unit is as much as 2,500 ft thick and comprises primarily well bedded limestone with some siliceous limestone and dolomitic limestone.

The Lone Mountain Dolomite (Devonian- Silurian age) outcrops only along the southern flanks of Lone Mountain in Kobeh Valley, and in the northwestern part of the Roberts Mountains in southern Pine Valley. The unit comprises about 2,200 ft of dolomite and dolomitic limestone; the unit grades laterally into the Roberts Mountains formation.

The Roberts Mountain Formation (Devonian-Silurian age) is not shown on Figure 3 because it is limited to a small exposure on the west side of Lone Mountain and two small, isolated blocks in the Pine Valley portion of the Roberts Mountains. The unit is about 1,900-2,200 ft thick and comprises massive dolomite and siliceous bioclastic limestone. The unit grades laterally into the Lone Mountain Dolomite.

The Hanson Creek Formation (Ordovician) outcrops only in a small area of the Pine Valley portion of the Roberts Mountains and in the southern Mahogany Hills in Antelope Valley. The unit comprises shaly and dolomitic limestone and chert and is about 560 ft thick in the northern Roberts Mountains.

The Vinini Formation (Cambrian(?)-Ordovician age) outcrops extensively in the Roberts Mountains, at Mount Hope, and eastern Kobeh Valley in the Sulphur Spring Range. This formation is more than 2,000 ft thick and comprises a basal member of fine-grained limestone, calcareous sandstone, siltstone and shale with lava flows, tuff, and cherty shales near the top; and an upper member of interbedded layers of chert and black shale. Murphy et al (2007) divided the formation into three members by breaking the siltstone, shale, and volcanic rocks into a middle member. Throughout most of the region, the Vinini Formation has been thrust over younger Paleozoic rocks and forms the majority of the Roberts Mountains Allochthon (RMA), a group of units that have been structurally thrust over younger rocks in the region. In some areas, multiple thrust faults have resulted in great thicknesses of the Vinini. The formation has been extensively intruded in the central part of the Roberts Mountains by basaltic dike swarms. As noted by Finney and Perry (1991), greenstone is common in the lower member on the west side of the Roberts Mountains occurring in a paleochannel. The upper member is interbedded chert and black shale. Some of the shale layers in the upper member were reported to be petroliferous by Roberts et al (1967).

The Lower Eastern Assemblage (LEA) includes a number of individual units of Cambrian to Ordovician age, the Eureka Quartzite, the Pogonip Group, and Hamburg Dolomite. In Kobeh Valley the only occurrence of the LEA is on the southwestern base of Lone Mountain. In other basins, the LEA may be several thousand feet thick.

3.4 Conceptual Hydrostratigraphic Units

Based on the physical and structural characteristics of rocks in Kobeh Valley, some generalizations of the water-bearing characteristics can be made. **Table 2** is a hydrostratigraphic column of the geologic units in Kobeh Valley that summarizes the

production potential of the valley-fill units, the volcanic and intrusive rocks, and the Paleozoic sedimentary rocks. The hydraulic properties of the geologic units probably vary considerably reflecting the types of units present, their environments of deposition, and post-depositional history. It should be noted that this column is based upon the sequence of rocks as they occur today in the Mount Hope regions and not the original stratigraphic succession at their time of deposition.

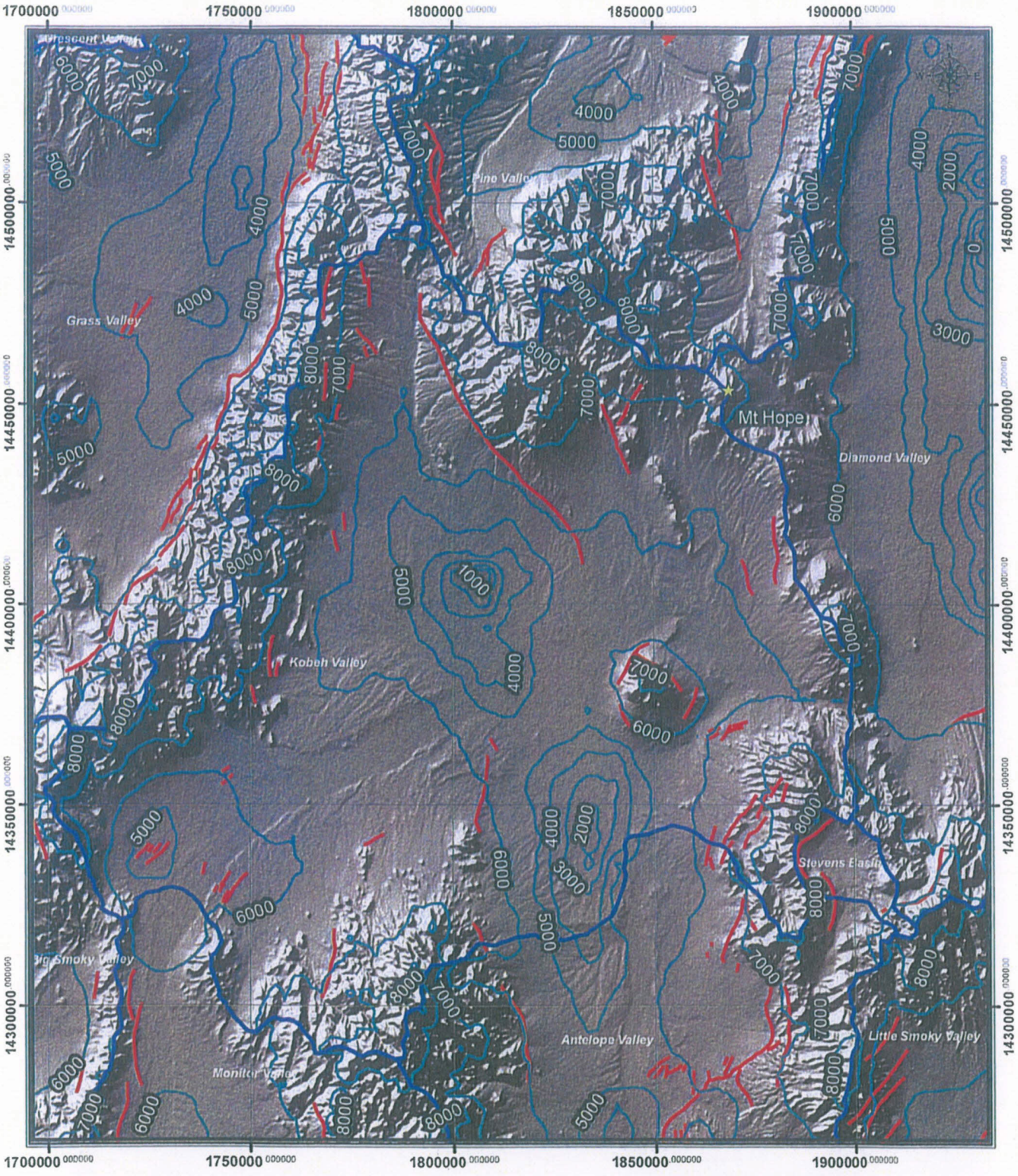
To portray the generalized subsurface relationships in the Paleozoic rocks a series of four cross sections were prepared across the locations shown in **Appendix A**. Map symbols shown in **Table 2** refer to symbols used in these cross sections. These cross sections were extended to the east beyond Kobeh Valley to the Diamond Mountains to portray the relationship between Kobeh Valley on the west, and Diamond Valley on the east. Because of the lack of deep subsurface information, the area between the oil and gas boreholes can only be inferred on the basis of the surficial geology and the presence of mapped structures at the surface and their assumed subsurface expression. The cross sections show the significance of the deep troughs in the pre-Cenozoic surface. The thick and generally fine-grained valley-fill sediments that were deposited in these troughs form significant hydraulic barriers separating the thick Paleozoic sequences on either side of the trough. The sections also illustrate the compartmentalization of the Paleozoic rocks by normal faults that have disrupted the continuity of individual formations and the thrust faults that have overlapped fine-grained units over younger carbonate rocks.

3.4.1 AQUITARDS

The fine grained lacustrine sediments and conglomerates with fine grained matrices in the lower valley-fill deposits are inferred to be aquitards. The volcaniclastic units that overlie these deposits may also be aquitards depending upon their lithologic nature and the degree of alteration of the volcanic units into clay.

Underlying the valley-fill deposits in the lowlands and outcropping in the upland areas are the volcanic and intrusive rocks. The rhyolitic and intrusive rocks are dense and probably serve as aquitards while the basalt and welded tuff are typically aquitards except where intensely fractured.

The siliciclastic portion of the Garden Valley Formation and the entirety of the Vinini Formation are considered aquitards. The Garden Valley Formation is interpreted as a barrier to groundwater flow between the Mount Hope area on the west, and Diamond Valley on the east. The Mississippian undivided unit is also interpreted to be a barrier to groundwater flow. This unit is not included on the hydrostratigraphic column because of its limited occurrence in Kobeh Valley. However, the unit probably impedes the hydraulic communication between Kobeh Valley and Diamond Valley in the Devils Gate area.



Explanation

Hydrographic Basin Boundaries

Elevation Contours of Pre-Tertiary Rocks (feet amsl)

Quaternary Faults

Figure 4: Elevation of Pre-Tertiary Basement in the Kobeh Valley Region

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Table 1. Selected Oil and Gas Exploration Well Data for Kobeh Valley, Diamond Valley, Monitor Valley, and Antelope Valley.

Summary Information from Drillers Reports and Garside et al (1988)										Elevation (ft)		
BASIN	PERMIT	WELL	Northing (ft)	Easting (ft)	DATE	TD ft	ft>msl	TOPS	LOGS	Tert	Paleo	TD
Antelope Valley	721	Cedar Creek No. 2-1	14302689	1842531	4JAN 91	5,660	6265	Surface basin-fill; 1,860' volc.; 5,262' Paleozoics (Vinini)	DLL, S, DM and lithologic may be at DOM 1,514-TD.	4405	1003	605
Antelope Valley	557	Twin Springs Federal No. 10-6	14319183	1827998	15 DEC 89	8,031	6,252	Surface basin-fill; 1820' Tertiary tuffs; 4890' Tertiary andesite; 5479' Tertiary base of andesite; 6624' Ordovician Hanson Creek Fm.?; 6650' Ordovician Eureka Quartzite ?; 7190' Ordovician ?	lithologic 106 - 8022'; DI 50 - 8029'; N/FDC 2040 - 8027'; Geometry 104 - 2044'; DLL 6000 - 8028'; ML 2040 - 8027'; S 100 - 8027'; drill-time 140 - 8022'	4432	-372	- 1779
Monitor Valley North	410	Stoneberger Creek Federal A No. 1-35	14331364	1741738	09 MAR 85	5,050	6,267	Surface Quat. alluvial basin-fill; 390' Tert. volc.; 3,596' Pal.	Lithologic 80 - 5,049'; DIL/ML 1,100 - 5,035'; BHCS 81 - 5,044'; TS 81 - 5,049'; DI 81 - 1,103'; GR 1,100 - 5,047'; CNL 1,100 - 5,047'	5877	2671	1217
Kobeh Valley	531	Lone Mountain No. 15-1	14388534	1830697	26 MAY 90	5,201	6,110	Surface basin-fill; 1400' Roberts Mountain Fm.; 1984' Hanson Creek Fm.; 2206' Eureka Quartzite	lithologic 161-5201'; BHCS 161-1493'; DI 161-1495'; DLL 1400-5198'; DM 1500-5198'; FDC/N 1500-5196'; Digital Sonic 1500-5194'		4710	909
Kobeh Valley	526	North Kobeh Valley Federal No. 13-10	14412945	1806824	14 MAR 89	6,462	6,241	Surface basin-fill; 830' Tertiary volc.; 1714' Ordovician Vinini Fm.; 2750 Devonian Nevada Fm.	lithologic 163-6460'; FDC/N 1658-3196'; S 1658-3216'; TS 0-3411'; Borehole geometry 160-1656'; LSS 158-1650'; DI 50-1654'; DLL 1614-3197'	5411	4527	-221
Kobeh Valley		Silver State Federal No 33-18	14385898	1813564	1981	9120	6112	Surface basin-fill; 2960' tuff; 3225' limestone; 3360' basin-fill; 4440' tuff; 4770' basin-fill; 5600' tuff; 6450' basin-fill; 6720' Dev-Sil dolo and ls	unknown	3152	-608	- 3008
Kobeh Valley	385	Willow Wash Federal No. 42-24	14408984	1807975	24 OCT 84	7,834	6,210	7197' Dev. Roberts Mountains Fm.; 7512' Sil. Hanson Creek Fm.; 7796' Ord. Eureka Qtz.	Lithologic 40 - 7,834'; DI 61 - 7,823'; BHCS/GR/Cal 64 - 7,823'; CNL/FDC 3,562 - 7,829'; Electromagnetic Thickness 1,700 - 3,509'; TS 1,612 - 3,760'; CBL 2,895 - 3,514'		-987	- 1624
Diamond Valley	581	Black Point No. 6-11	14427271	1941877	19 NOV 90	8,600	5,875	Surface basin-fill; 4246' volc.; 4773' Devonian Nevada Fm.; 4773' Beacon Peak Dol. Mbr.; 5380' Oxyoke Canyon SS. Mbr.; 6002' Sentinel Mtn. Dol. Mbr.; 6086' Penn. Ely Fm.; 6500' Miss Diamond Peak Fm.	lithologic 98-8600'; DLL 200-8596';FDC/N 200-8596; 4 digital sonic logs 1200-8578'; Porosity 1200-8596'	1629	1102	- 2725
Diamond Valley	29	Diamond Valley Unit No. 1	14474391	1941369	27 OCT 56	8,042	5,800	Surface basin-fill; 750(0)' Pal. ls. and dol.	Drilling/Lithologic 0 - 8,042'; IES 650 - 8,040'; GR/N 650 - 8,040'; DM 650 - 8,040'		-1700	- 2242
Diamond Valley	285	Diamond Valley Federal No. 1-24	14511402	1932880	24 OCT 80	8,900	5,780	1070' Tert. ; 7353' Miss. Chainman Sh.	Lithologic 600 - 8,902'; DIL 1,112 - 8,882'; DM 1,112 - 8,882'; PML 1,112 - 8,886'; BHCS 1,112 - 8,875'; CNL/FDC 1,110 - 8,880'; Directional 1,116 - 8,560'	4710	-1575	- 3120

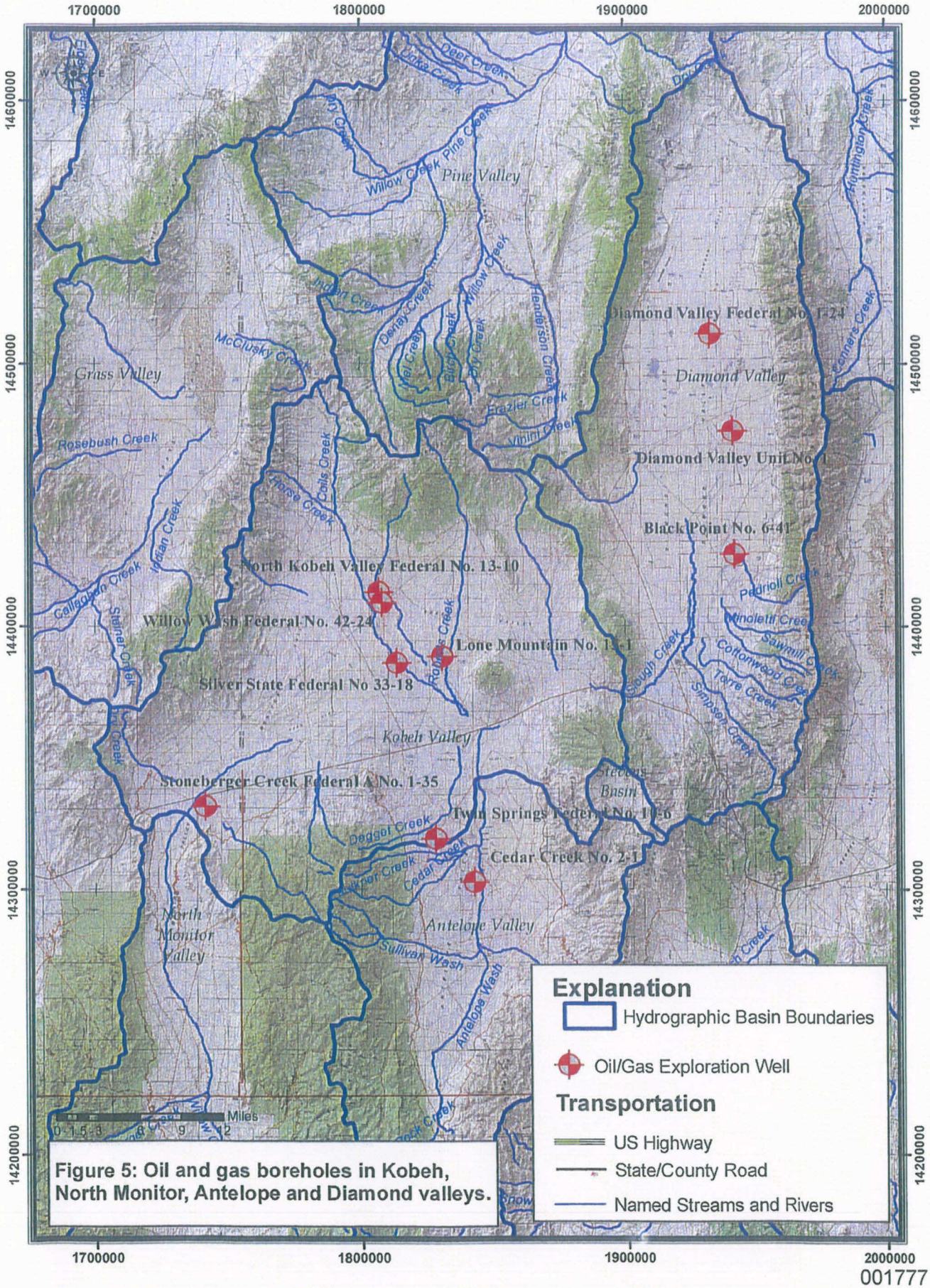

Figure 5: Oil and gas boreholes in Kobeh, North Monitor, Antelope and Diamond valleys.

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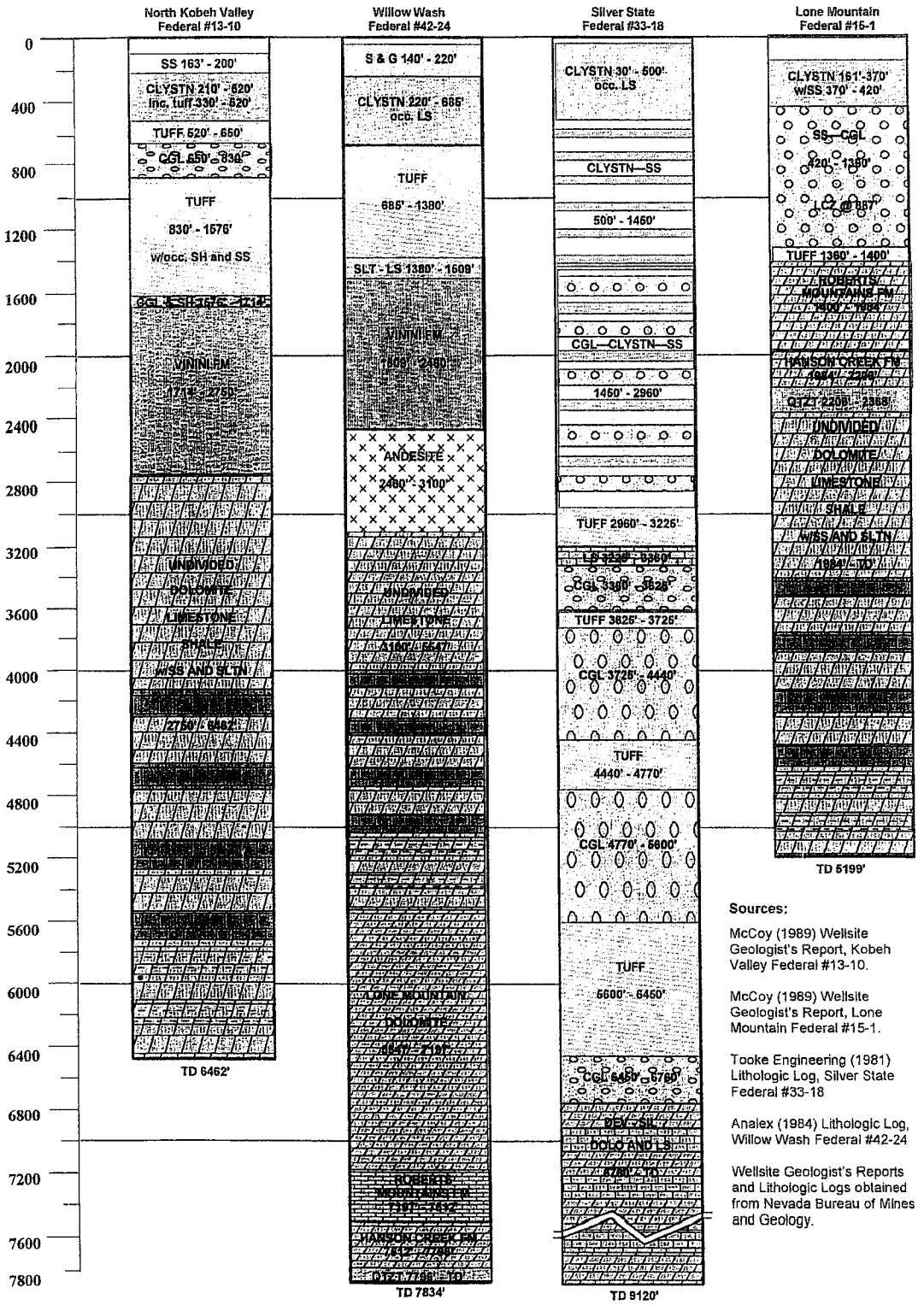

Sources:

McCoy (1989) Wellsite Geologist's Report, Kobeh Valley Federal #13-10.

McCoy (1989) Wellsite Geologist's Report, Lone Mountain Federal #15-1.

Tooke Engineering (1981) Lithologic Log, Silver State Federal #33-18

Analex (1984) Lithologic Log, Willow Wash Federal #42-24

Wellsite Geologist's Reports and Lithologic Logs obtained from Nevada Bureau of Mines and Geology.

Figure 6. Summary lithologic logs from oil and gas boreholes in Kobeh Valley

The lithologies of the basin-fill deposits below alluvium include claystone, conglomerate, tuffs and tuffaceous sediments, and occasional freshwater limestones. The claystone, freshwater limestone, and tuffaceous sediments are indicative of lacustrine deposition. These deposits are associated with ancestral (Pleistocene) Lake Jonathan in Kobeh Valley, and Lake Diamond which covered almost the entire present day valley floor of Diamond Valley and a small area in southeastern most Kobeh Valley, and poorly documented predecessor lakes. The approximate limits of these lakes are shown in **Figure 7**, and are derived from Reheis (1999). The former presence of these lakes is significant because of the types of sediments that were deposited, and the effect of the lake on the volcanic tuffs that are inter-bedded with the lacustrine deposits. Upon deposition in the lake, the tuffs were extensively altered to clay, with a significant decrease in the ability of the tuffs to transmit groundwater. Although the altered tuffs are capable of storing large volumes of water, they are not expected to yield appreciable flows to water wells.

Also shown on **Figure 7** is the inferred limit of the lacustrine deposits that is based upon the valley-fill deposits penetrated in exploration holes drilled by EMLLC. The new information from drilling suggests that an ancient pluvial lake extended further to the north than the limits shown by Reheis (1999). A review of the geologic map of the Roberts Creek Quadrangle (Murphy et al, 1978) shows isolated outcropping of Oligocene sediments near Roberts Creek that are likely strands that were uplifted with the Roberts Mountains later during the Tertiary.

3.3.2 Volcanic Rocks

Within the area of investigation in Kobeh, volcanic rocks are limited to the central Roberts Mountains with almost all exposure limited to the area east of Roberts Creek and an isolated area of Whistler Mountain. In the Roberts Mountains, the volcanic rocks include a rhyolitic tuff and breccia as much as 700 ft thick, andesitic lava flows up to 200 ft thick and thick flows of quartz latite.

While the volcanic rocks are not considered suitable as a target for water development, their presence is important with respect to groundwater flow and boundary conditions in the Roberts Mountains and portions of Kobeh Valley.

Figure 8 is a portion of the geologic map of the Mount Hope region by Childress and Ferdock (2008). Of note are the dike swarms that intrude the Paleozoic sedimentary rocks in the north-central part of the Roberts Mountains. These mafic dikes are the manifestation of a regional scale feature referred to as the Northern Nevada Rift. The Northern Nevada Rift, as shown in **Figure 9**, is a north-northwest to south-southeast trending feature that is prominent on the state-scale magnetic anomaly map. This feature was also observed as a prominent gravity anomaly by Ponce and Glen (2002) who noted the relationship between the feature and epithermal gold deposits in the region. The rift is west of Mount Hope and is not directly associated with mineralization there, but does occur in the central and western Roberts Mountains.

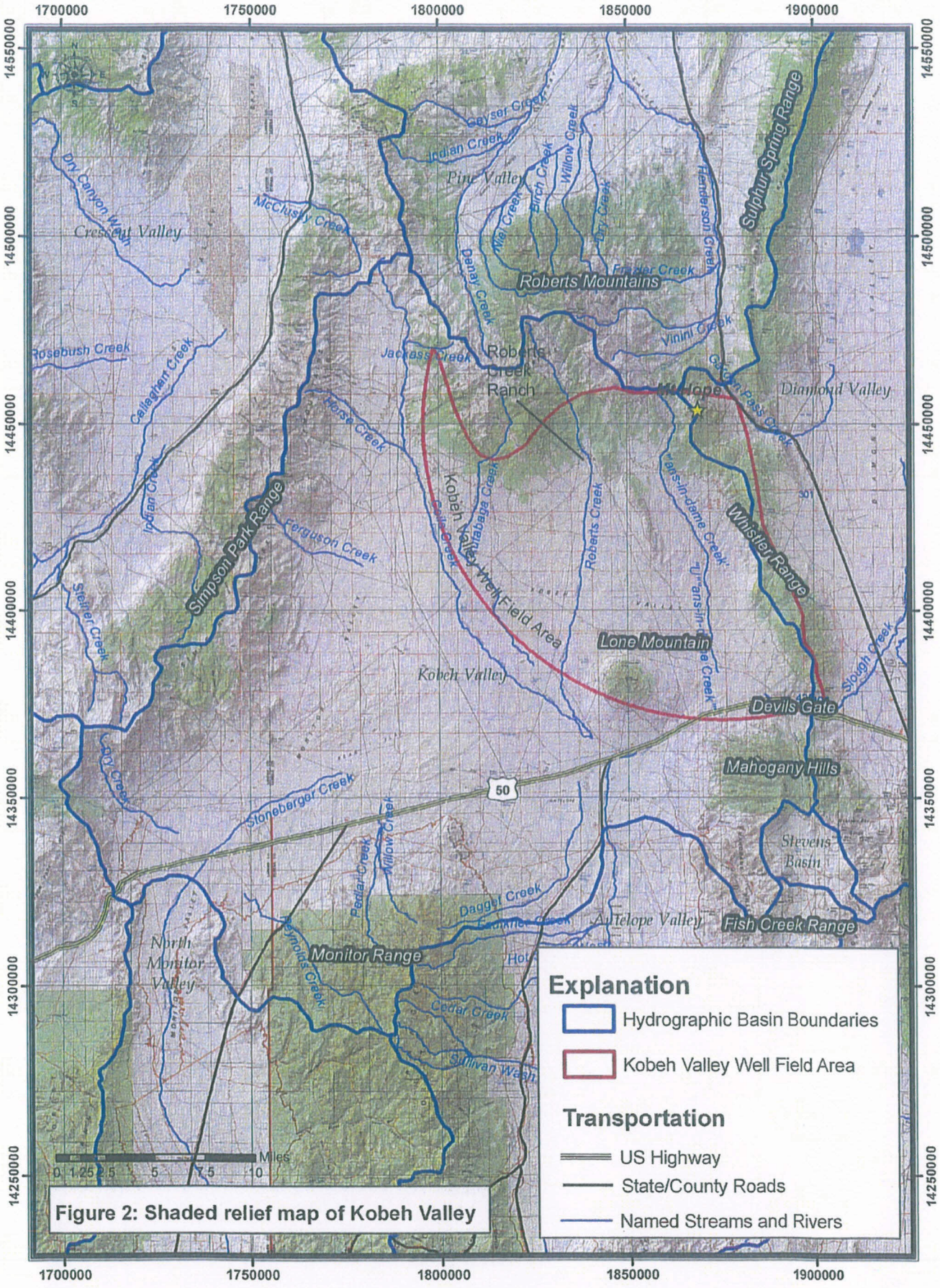

Figure 2: Shaded relief map of Kobeh Valley

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3.3 REGIONAL GEOLOGIC SETTING

This section provides an overview of the regional geology of Kobeh Valley, and introduces several geologic units that are described or mentioned in later portions of this report. A more comprehensive review and interpretation of the structural geology and hydrogeology of the well field area is presented in **Section 7**, and incorporates knowledge and inferences of the local-scale geologic conditions gleaned from geophysics, aquifer testing, and additional geologic data gathered during test and monitor well drilling.

Figure 3 is a map showing the surficial geology of the Kobeh Valley Well Field area, derived primarily from the Eureka County geologic map by Roberts et al (1967) and a geologic map of north-central Nevada by Stewart and Carlson (1976). The stratigraphic units shown on the map are consistent with those mapped by Roberts et al (1967). Other more detailed quadrangle or area maps by Larson and Riva (undated), Walker (1964), McKee (1968), McKee and Conrad (1988), Murphy et al (2007), and Childress and Ferdock (2008) show somewhat different stratigraphic and/or time correlative units, particularly the McColley Canyon Formation and the Denay Limestone, which are described in the Paleozoic rocks section (**Section 3.3.3**).

The mapped geologic units can be divided into three separate groups: 1) valley-fill deposits (also known as basin-fill deposits); 2) volcanic and igneous rocks of Tertiary and Mesozoic age; and 3) sedimentary and metasedimentary rocks of Paleozoic age. These geologic divisions are described below.

3.3.1 VALLEY-FILL DEPOSITS

The uppermost valley-fill deposits typically comprise older and younger alluvium. Underlying these alluvial sediments in some areas are thick accumulations of valley-fill deposits of Tertiary age. The nature of the Tertiary deposits is quite variable and is in part based upon three key factors:

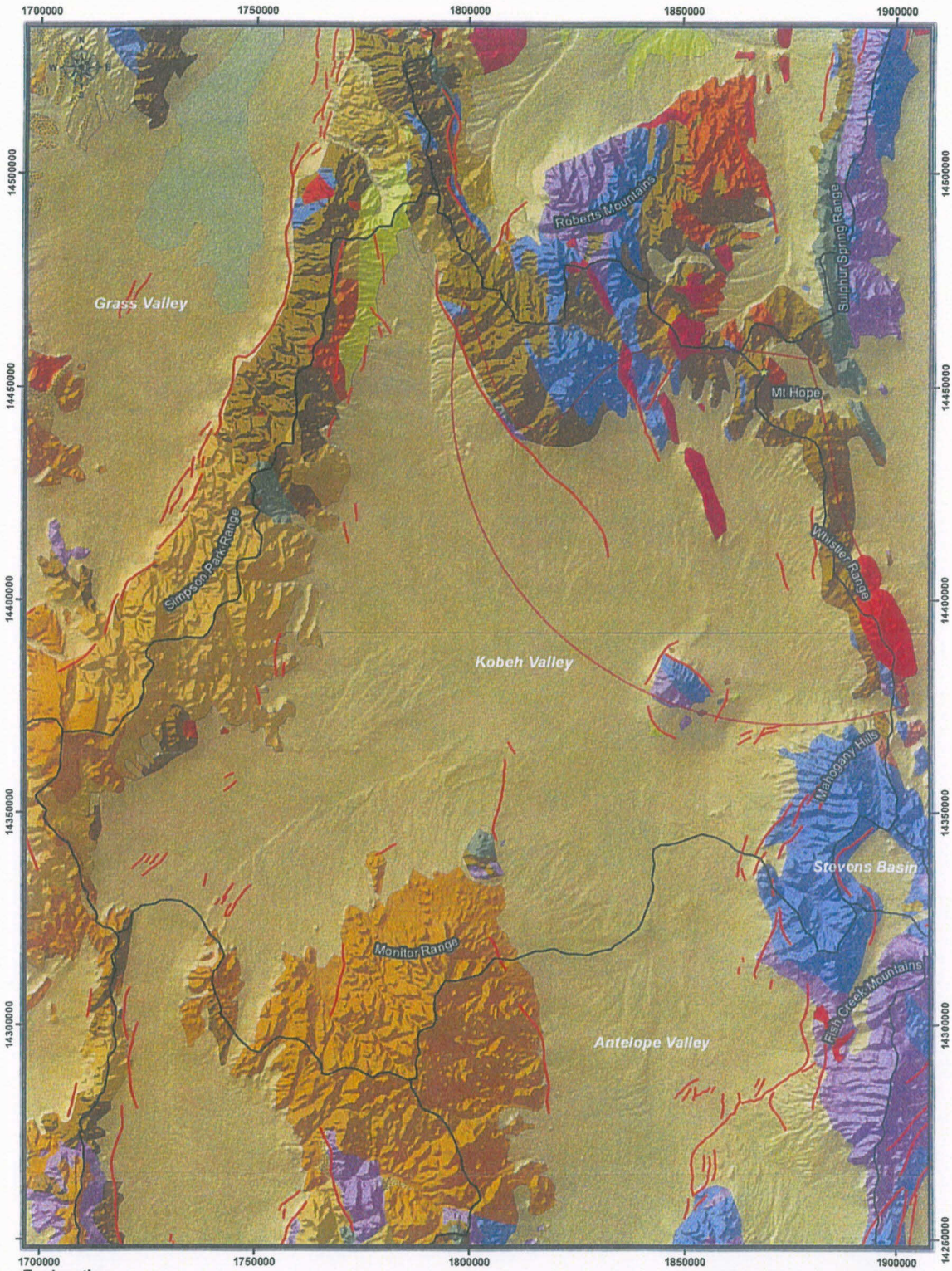
1) The configuration of the pre-Tertiary surface on which the sediments were deposited;
2) The sources of sediment; and
3) The environments of deposition.

The configuration of the pre-Tertiary surface can be inferred on the basis of regional scale geophysical studies and constrained with information from deep oil and gas exploration boreholes. **Figure 4** shows contours of the elevation of pre-Tertiary rocks based on gravity data from Ponce (1997). In western Kobeh Valley an asymmetric trough in the pre-Tertiary surface extends to depths of more than 5,000 ft below land surface. In Diamond Valley, a deep linear trough in the pre-Tertiary surface has accumulated more than 7,000 ft of basin-fill deposits in some portions of the basin. Basin-fill is comprised of both alluvial derived sediments and volcanic sediments and rocks. Similar thicknesses are shown by Welch et al (2007) on their depth to bedrock map and hydrogeologic map, but do not correspond well with their single cross section through southern Diamond Valley.

These asymmetric troughs are targets for oil traps and a number of deep exploration wells have been drilled in Kobeh Valley and Diamond Valley. A map showing the location of oil and gas exploration boreholes is shown in **Figure 5**. **Figure 6** shows summary lithologic logs for the holes drilled in Kobeh Valley, and additional information is provided in **Table 1** for all of the boreholes. The information was obtained from the reports and files of the Nevada Bureau of Mines and Geology, as cited on **Figure 6**.

As shown, the valley-fill deposits are quite variable both in thickness, and lithology. The depth to the pre-Tertiary surface in these oil and gas exploration boreholes ranged from 1,400 ft to 6,760 ft. The thickness increases in the deeper portions of the basin and decreases to as little as a few tens of feet near the mountain fronts.

The valley-fill sediments in Kobeh Valley are the product of the weathering of the Paleozoic rocks that form the pre-Tertiary surface, the volcanism that created the Monitor Range and the basalt flows and intrusive rocks in the northern and western part of the basin, the erosion of those volcanic rocks, and the chemical processes that altered the source rocks.



Explanation

- Mt Hope
- Kobeh Valley Wellfield Area
- Hydrographic Basin Boundaries
- Quaternary Faults

Geologic Units

- Quaternary and Tertiary Basin Fill
- Quaternary Playa Sediments
- Tertiary Unwelded Tuffs
- Tertiary Rhyolite Flows and Intrusives
- Tertiay Andesite Flows
- Tertiary Basalt Flows
- Jurassic-Cretaceous Granitic Rocks
- Devonian Carbonates (Eastern Assemblage) Includes the Devils Gate Limestone, the McColley Canyon Fm., the Denay Limestone, the Roberts Mountain Fm., and the Lone Mountain Dolomite
- Permian Conglomerate and Limestone Garden Valley Formation
- Lower Eastern Assemblage, and Silurian Carbonates
- Western Assemblage Siliciclastics Includes units within the Roberts Mountains Allochthon, Vinini Fm., Webb Fm., and some Silurian and Devonian rocks
- Mississippian and Devonian Transitional and Detrital Rocks In southeastern portion of the map, units are generally refered to as the Chainman Shale

Miles
0 1.25 2.5 5 7.5 10

Data Source: Stewart and Carleson, 2003

Figure 3: Generalized surficial geologic map of Kobeh Valley

Figure 3. Generalized surficial geologic map of the Kobeh Valley Well Field area.

IN THE SUPREME COURT OF THE STATE OF NEVADA

EUREKA COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF NEVADA; KENNETH F. BENSON, INDIVIDUALLY; DIAMOND CATTLE COMPANY, LLC, A NEVADA LIMITED LIABILITY COMPANY; AND MICHEL AND MARGARET ANN ETCHEVERRY FAMILY, LP, A NEVADA REGISTERED FOREIGN LIMITED PARTNERSHIP,

Appellants,

vs.

THE STATE OF NEVADA STATE ENGINEER; THE STATE OF NEVADA DIVISION OF WATER RESOURCES; AND KOBEH VALLEY RANCH, LLC, A NEVADA LIMITED LIABILITY COMPANY,

Respondents.

_____/

Case No. 61324

District Court Case Nos.
CV 1108-15; CV 1108-156;
CV 1108-157; CV 1112-164;
CV 1112-165; CV 1202-170

JOINT APPENDIX
Volume 12

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CHRONOLOGICAL APPENDIX TO APPEAL FROM JUDGMENT

DOCUMENT	DATE	VOL	JA NO.
Petition for Judicial Review	08/08/2011	1	01-06
Notice of Verified Petition for Writ of Prohibition, Complaint and Petition for Judicial Review	08/10/2011	1	07- 08
Verified Petition for Writ of Prohibition, Complaint and Petition for Judicial Review	08/10/2011	1	09-59
Summons and Proof of Service, Kobeh Valley Ranch, LLC	08/11/2011	1	60-62
Summons and Proof of Service, Jason King	08/11/2011	1	63-65
Affidavit of Service by Certified Mail	08/11/2011	1	66-68
Notice of Petition for Judicial Review	08/11/2011	1	69-117
Summons and Proof of Service, Kobeh Valley Ranch, LLC	08/15/2011	1	118-120
Summons and Proof of Service, Jason King	08/15/2011	1	121-123
Summons and Proof of Service, The State of Nevada	08/17/2011	1	124-128
First Additional Summons and Proof of Service, State Engineer, Division of Water Resources	08/17/2011	1	129-133
Order Allowing Intervention of Kobeh Valley Ranch, LLC, to Intervene as a Respondent	09/14/2011	1	134-135

DOCUMENT	DATE	VOL	JA NO.
Partial Motion to Dismiss, Notice of Intent to Defend	09/14/2011	1	136-140
Order Allowing Intervention of Kobeh Valley Ranch, LLC, as a Party Respondent	09/26/2011	1	141-142
Answer to Verified Petition for Writ of Prohibition, Complaint and Petition for Judicial Review by Kobeh Valley Ranch, LLC	09/28/2011	1	143-149
Answer to Petition for Judicial Review by Kobeh Valley Ranch, LLC	09/29/2011	1	150-154
Answer to Petition for Judicial Review by Kobeh Valley Ranch, LLC	09/29/2011	1	155-160
Order Directing the Consolidation of Action CV1108-156 and Action No. CV1108-157 with Action CV1108-155	10/26/2011	1	161-162
Summary of Record on Appeal	10/27/2011	2-26	163-5026
Request for and Points and Authorities in Support of Issuance of Writ of Prohibition and in Opposition to Motion to Dismiss	11/10/2011	27	5027-5052
Order Setting Briefing Schedule	12/02/2011	27	5053-5055
Reply in Support of Partial Motion to Dismiss and Opposition to Request for Writ of Prohibition	12/15/2011	27	5056-5061

DOCUMENT	DATE	VOL	JA NO.
Kobeh Valley Ranch's Reply to Conley/Morrison's Request for and Points and Authorities in Support of Issuance of Writ of Prohibition and in Opposition to Motion to Dismiss	12/15/2011	27	5062-5083
Kobeh Valley Ranch's Joinder in the State of Nevada and Jason King's Partial Motion to Dismiss	12/15/2011	27	5084-5086
Petition for Judicial Review	12/29/2011	27	5087-5091
Petition for Judicial Review	12/30/2011	27	5092-5097
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Eureka County's Opening Brief	01/13/2012	27	5178-5243
Eureka County's Summary of Record on Appeal - CV1112-0164	01/13/2012	28	5244-5420
Eureka County's Supplemental Summary of Record on Appeal - CV1108-155	01/13/2012	29-30	5421-5701

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Answer to First Amended Petition for Judicial Review	01/30/2012	31	5711-5717
Supplemental Petition for Judicial Review	01/31/2012	31	5718-5720
Petition for Judicial Review	02/01/2012	31	5721-5727
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Record on Appeal, Vol. II, Bates Stamped Pages 217-421	02/03/2012	32	5951-6156
Record on Appeal, Vol. III, Bates Stamped Pages 422-661	02/03/2012	33	6157-6397
Answer to Petition to Judicial Review	02/23/2012	34	6398-6403
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Eureka County's Reply Brief	03/28/2012	34	6566-6638

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Transcript for Petition for Judicial Review	04/03/2012	35	6639-6779
Corrected Answering Brief	04/05/2012	35	6780-6822
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Notice of Entry of Findings of Fact, Conclusions of Law, and Order Denying Petitions for Judicial Review	06/18/2012	36	6882-6944
Notice of Appeal	07/10/2012	36	6945-6949
Petitioners Benson, Diamond Cattle Co., and Etcheverry Family LP's Notice of Appeal	07/12/2012	36	6950-6951
Excerpts from Transcript of Proceedings	10/13/2008	36	6952-6964

ALPHABETICAL APPENDIX TO APPEAL FROM JUDGMENT

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Affidavit of Service by Certified Mail	08/11/2011	1	66-68
Answer to Verified Petition for Writ of Prohibition, Complaint and Petition for Judicial Review by Kobeh Valley Ranch, LLC	09/28/2011	1	143-149
Answer to Petition for Judicial Review by Kobeh Valley Ranch, LLC	09/29/2011	1	150-154
Answer to Petition for Judicial Review by Kobeh Valley Ranch, LLC	09/29/2011	1	155-160
Answer to Petition for Judicial Review	01/30/2012	31	5704-5710
Answer to First Amended Petition for Judicial Review	01/30/2012	31	5711-5717
Answer to Petition to Judicial Review	02/23/2012	34	6398-6403
Answering Brief	02/24/2012	34	6404-6447
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Eureka County's Opening Brief	01/13/2012	27	5178-5243
Eureka County's Reply Brief	03/28/2012	34	6566-6638
Excerpts from Transcript of Proceedings	10/13/2008	36	6952-6964

DOCUMENT	DATE	VOL	JA NO.
Findings of Fact, Conclusions of Law, and Order Denying Petitions for Judicial Review	06/13/2012	36	6823-6881
First Additional Summons and Proof of Service, State Engineer, Division of Water Resources	08/17/2011	1	129-133
First Additional Summons and Proof of Service, State Engineer, Division of Water Resources	01/11/2012	27	5101-5103
First Amended Petition for Judicial Review	01/12/2012	27	5104-5111
Kobeh Valley Ranch's Reply to Conley/Morrison's Request for and Points and Authorities in Support of Issuance of Writ of Prohibition and in Opposition to Motion to Dismiss	12/15/2011	27	5062-5083
Kobeh Valley Ranch's Joinder in the State of Nevada and Jason King's Partial Motion to Dismiss	12/15/2011	27	5084-5086
Notice of Verified Petition for Writ of Prohibition, Complaint and Petition for Judicial Review	08/10/2011	1	07- 08
Notice of Petition for Judicial Review	08/11/2011	1	69-117
Notice of Entry of Findings of Fact, Conclusions of Law, and Order Denying Petitions for Judicial Review	06/18/2012	36	6882-6944
Notice of Appeal	07/10/2012	36	6945-6949
Opening Brief of Conley Land & Livestock, LLC and Lloyd Morrison	01/13/2012	27	5112-5133

DOCUMENT	DATE	VOL	JA NO.
Order Allowing Intervention of Kobeh Valley Ranch, LLC, to Intervene as a Respondent	09/14/2011	1	134-135
Order Allowing Intervention of Kobeh Valley Ranch, LLC, as a Party Respondent	09/26/2011	1	141-142
Order Directing the Consolidation of Action CV1108-156 and Action No. CV1108-157 with Action CV1108-155	10/26/2011	1	161-162
Order Setting Briefing Schedule	12/02/2011	27	5053-5055
Order Granting Extension	01/26/2012	31	5702-5703
Partial Motion to Dismiss, Notice of Intent to Defend	09/14/2011	1	136-140
Petition for Judicial Review	08/08/2011	1	01-06
Petition for Judicial Review	12/29/2011	27	5087-5091
Petition for Judicial Review	12/30/2011	27	5092-5097
Petition for Judicial Review	02/01/2012	31	5721-5727
Petitioners Kenneth F. Benson, Diamond Cattle Company, LLC, and Michel and Margaret Ann Etcheverry Family LP's Opening Brief	01/13/2012	27	5134-5177
Petitioners Kenneth F. Benson, Diamond Cattle Company, LLC, and Michel and Margaret Ann Etcheverry Family LP's Reply Brief	03/28/2012	34	6542-6565
Petitioners Benson, Diamond Cattle Co., and Etcheverry Family LP's Notice of Appeal	07/12/2012	36	6950-6951

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Record on Appeal, Vol. III, Bates Stamped Pages 422-661	02/03/2012	33	6157-6397
Reply in Support of Partial Motion to Dismiss and Opposition to Request for Writ of Prohibition	12/15/2011	27	5056-5061
Reply Brief of Conley Land & Livestock, LLC and Lloyd Morrison	03/28/2012	34	6519-6541
Request for and Points and Authorities in Support of Issuance of Writ of Prohibition and in Opposition to Motion to Dismiss	11/10/2011	27	5027-5052
Respondent Kobeh Valley Ranch, LLC's Answering Brief	02/24/2012	34	6448-6518
Summary of Record on Appeal	10/27/2011	2-26	163-5026
Summary of Record on Appeal	02/03/2012	31	5728-5733
Summons and Proof of Service, Kobeh Valley Ranch, LLC	08/11/2011	1	60-62
Summons and Proof of Service, Jason King	08/11/2011	1	63-65
Summons and Proof of Service, Jason King	08/15/2011	1	121-123
Summons and Proof of Service, Kobeh Valley Ranch, LLC	08/15/2011	1	118-120

DOCUMENT	DATE	VOL	JA NO.
Summons and Proof of Service, The State of Nevada	08/17/2011	1	124-128
Summons and Proof of Service, The State of Nevada	01/11/2012	27	5098-5100
Supplemental Petition for Judicial Review	01/31/2012	31	5718-5720
Transcript for Petition for Judicial Review	04/03/2012	35	6639-6779
Verified Petition for Writ of Prohibition, Complaint and Petition for Judicial Review	08/10/2011	1	09-59

CERTIFICATE OF APPENDIX (NRAP 30(g)(1)

In compliance with NRAP 30(g)(1) I hereby certify that this Appendix consists of true and correct copies of the papers in the District Court file.

DATED: December 21, 2012.

/s/ KAREN A. PETERSON
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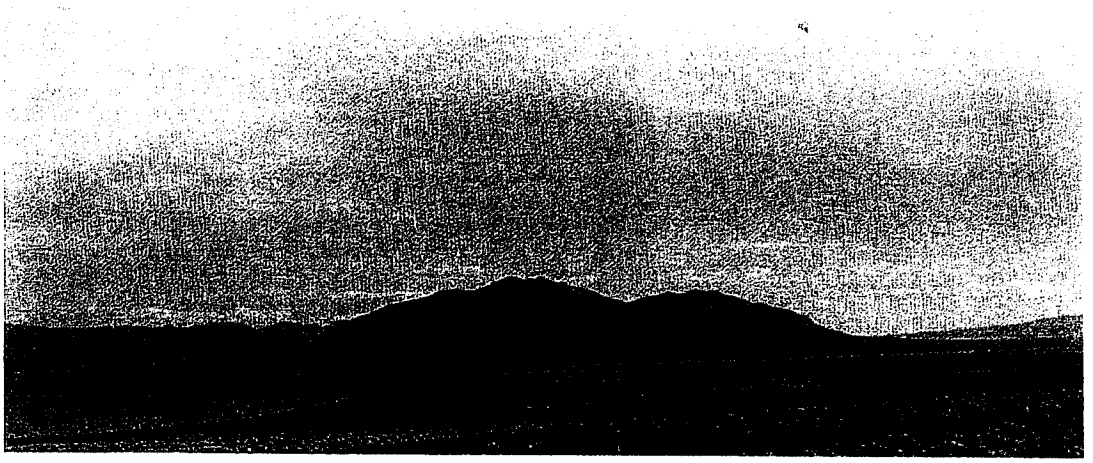
EUREKA MOLY

Kobeh Valley Well Field Data Summary Report

A summary of geologic and hydrogeologic data for the Kobeh Valley Well Field area of the Mount Hope project, Eureka County, Nevada.

Prepared for:
Eureka Moly, Inc., Eureka, NV
3/8/2010



Copy Exhibit 40 001754

Frontispiece: View of Lone Mountain from the Kobeh Central Well Field area, view is to the south.
Above: Flowing well on the Bartine Ranch, south-central Kobeh Valley, Lone Mountain in the background. View is to the east by north-east. The Kobeh Valley Well Field area is to the north of Lone Mountain, left of image.

Prepared by:

Interflow Hydrology, Inc., Truckee, CA,

with contributions from T. S Buqo, Consulting Hydrogeologist, Inc

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Kobeh Valley Well Field Data Summary

1.0 EXECUTIVE SUMMARY

Eureka Moly Inc. (EMLLC) is seeking to mine molybdenum at Mount Hope, located approximately 20 miles northwest of Eureka, Nevada. Water is a necessary component for the milling and processing of the ore. Planned mining operations are situated on both sides of the Diamond Valley - Kobeh Valley watershed divide, and the most logical source for water supply for the mine is in Kobeh Valley since Diamond Valley is already extensively pumped for agriculture. Surface water resources are limited in quantity in Kobeh Valley, therefore, groundwater contained in the valley-fill aquifer and/or fractured consolidated rocks within Kobeh Valley is the target for mine water supply.

In order to establish a reliable water supply, EMLLC has conducted a series of studies to characterize the hydrogeologic conditions in the valley. The northeastern portion of Kobeh Valley, termed the Kobeh Valley Well Field area has been the focus of considerable groundwater exploration efforts. These efforts have included:

- A review of existing geologic and hydrologic conditions in Kobeh Valley,
- Interpretation of existing geologic information and formation of a conceptual model of regional hydrogeology,
- Field reconnaissance and remote sensing to determine likely drilling locations,
- Subsurface geophysical reconnaissance of the northern portion of the Kobeh Valley Well Field area,
- An extensive drilling program that resulted in the drilling of forty (40) test or monitor wells,
- Wireline geophysical logging of test and monitor wells,
- Conducting thirteen (13) pumping tests,
- Analysis of aquifer responses to pumping tests and determination of hydraulic characteristics of the aquifers, and
- Development of geologic cross sections from surface exposures and subsurface data obtained from drilling, and

As a direct outcome of these efforts, a better understanding of the Kobeh Valley Well Field area has been established. In terms of geology, the well field area itself is complex with valley-fill sediments, volcanic rocks, and Paleozoic carbonate and siliciclastic sedimentary rocks that have been complexly folded and faulted. Tertiary extension has resulted in additional faulting producing a series of uplifted and down-dropped structural blocks. This faulting pattern horizontally juxtaposes differing rock types and produces structural compartments. Between two major upthrown blocks in the northern portion of the well field area, lacustrine and alluvial sediments have accumulated in a structurally down-dropped basin. In this graben structure, south of where Roberts Creek meets the alluvial fan, three

test wells have been completed in basin-fill sediments. One of the test wells encountered Paleozoic siliciclastic rocks at a depth of approximately 900 feet, constraining the thickness of the basin-fill sediments at that location. It is assumed that the remainder of the structural basin is also floored by siliciclastic rocks based on this intercept.

East of the aforementioned basin, carbonate rocks outcrop in an elongate horst (up-lifted) block that was explored by several exploration and test wells. The test drilling indicated that the carbonate rocks are limited in areal extent and fault-bounded, forming compartments.

Groundwater flow in the well field area is generally from the Roberts Mountains to the basin-fill aquifer, continuing south toward the center of Kobeh Valley. As compared with the basin-fill aquifer, hydraulic gradients are generally steeper in the bedrock of the Roberts Mountains presumably as a result of topography and recharge, and are affected by faulting and structural compartmentalization in carbonate rocks in the east-central portion of the well field area. Water level elevations obtained from EMLLC's test wells range from nearly 6,700 feet above mean sea level (amsl) from monitoring wells placed in the southern Roberts Mountains to approximately 6,200 feet amsl in the central portion of the well field area. South-southeast of the main well field corridor, in the Devil's Gate area, static water level elevations are at approximately 6,000 ft amsl.

Well yields were found to be the greatest from wells completed in the basin-fill and carbonate rock aquifers. Poor well performance was noted from nearly all wells that tap saturated volcanic, predominantly lacustrine, and Paleozoic siliciclastic rocks. Hydraulic properties derived from the aquifer and well testing program indicate that on a limited scale, carbonate rocks can produce the highest initial estimates of hydraulic conductivity, however, because of structural compartmentalization, well and aquifer performance decreases over time. Basin-fill sediments were tested along the well field corridor at several locations and indicate moderate to high transmissivity values.

Key findings from the well field exploration and testing program are summarized below:

- The geology of the Kobeh Valley Well Field area, situated in north-central Kobeh Valley is complex with multiple episodes of faulting, basin-fill deposition, and volcanic activity.

- The general structure of the northern well field area, south of Roberts Creek, is that of a central graben bordered by horst blocks to the west and east. The graben is at least 1,000 feet deep at locations 228T and 222T, and basin-fill within the graben has moderate to high permeability, ranging from approximately 3,000 to 13,000 ft^2/day.

- The basin-fill aquifer in the well field area appears to be connected with the greater valley floor basin-fill and hydraulic properties tend to indicate that the aquifer is adequate for providing a sustainable long-term water supply to production-capacity wells.

- Transmissivity of the carbonate rock aquifer can be from moderate to very high, but due to boundary conditions and compartmentalization, the aquifer is locally limited in extent. Within the well field area the eastern carbonate block behaves similar to an aquifer with an average transmissivity of between 6,000 and 7,000 ft^2/day, and a storage

coefficient of around 0.001 to 0.002. For short pumping durations, highly permeable zones in the carbonate rock, such as encountered at 206T, display a very high transmissivity value, but are not observed to be sustained over the course of long-term pumping (>30 days). In addition, recovery of water levels after pumping has ceased were very slow, indicating that the carbonate block was likely being dewatered.

- The well field area is bounded to the north by a fault-related low-permeability barrier condition at the base of the Roberts Mountains. This barrier condition is reflected in static water differentials of approximately 330 feet on either side of the fault as documented in monitoring wells at 213M and the Lower and Middle Roberts Creek monitoring wells.

2.0 INTRODUCTION

2.1 PURPOSE

Eureka Moly, Inc. (EMLLC) has conducted an extensive exploration program to identify and characterize a suitable water supply for the 44-year planned mine life of the Mount Hope Project. Water demand for the mining and milling operations is estimated at approximately 11,300 acre-feet per year, or approximately 7,000 gallons per minute pumped on a continuous basis. Pit dewatering activities planned for 32 years of the mine life will provide a small fraction of water supply, but the majority will be developed from groundwater resources in Kobeh Valley. Kobeh Valley, however, is a large basin, with the valley floor encompassing approximately 862 square miles, and only modest amounts of groundwater have historically been developed. In order to define a suitable location for development of a well field with capacity to produce 11,300 acre-feet per year, an exploration and testing program was implemented.

Exploration was conducted over several years and in several phases, and this report summarizes the data collected and interpretations of the data. Initially the east-central side of Kobeh Valley was targeted for exploration, and results of exploration were marginal, at best. However, during subsequent phases of exploration, the north-central and north-eastern portions of the Kobeh Valley were targeted, and ultimately proved more suitable for siting of a well field. Both basin-fill and carbonate-rock aquifers were explored and tested. This report primarily summarizes the 2007 and 2008 exploration in the northern portion of Kobeh Valley.

The overall purpose of the water supply exploration program has been to identify a suitable well field location and define the hydrogeologic conditions in and around the well field. The following objectives were identified to support achievement of this purpose:

- Define the hydrogeologic conditions of potential water supply source areas;
- Define and document targets for exploratory drilling and testing;
- Collect data through exploratory drilling, sampling and analysis, monitoring, and testing;
- Characterize the hydraulic properties of the aquifers present; and
- Develop a conceptual model of the groundwater regime to assist numerical modeling.

2.2 SCOPE OF WORK

Exploration work has included borehole drilling, piezometer / monitoring well construction, test well construction, aquifer testing, geophysical surveys, updated geologic mapping, and development of subsurface geologic interpretations. The exploration and testing program went through many iterations of data collection - data review - followed by additional data collection guided by the previous findings.

A summary of the scope of work conducted in the well field exploration and testing program is as follows:

- A review of existing geologic and hydrologic conditions in Kobeh Valley,
- Interpretation of existing geologic information and formation of initial conceptual model of regional hydrogeology,
- Field reconnaissance and remote sensing to determine likely drilling locations,
- Subsurface geophysical reconnaissance of the northern portion of the Kobeh Valley Well Field area,
- An extensive drilling program that resulted in the drilling of forty (40) test and/or monitoring wells,
- Wireline geophysical logging of test and monitor wells,
- Conducting thirteen (13) well and aquifer performance tests ranging in duration from several hours to 32 days,
- Analysis of aquifer response and determination of hydraulic characteristics of the aquifers,
- Development of geologic cross sections from surface exposures and subsurface data obtained from drilling, and
- Development of a conceptual model of the hydrogeology of the Kobeh Valley Well Field area.

Field activities in 2007 and 2008 were conducted under the technical direction of Tom Buqo, supported by EMLLC staff, Interflow Hydrology, and a team of sub-contracted professional and technical staff. Interpretations of the data were a collaborative effort between Interflow Hydrology, Tom Buqo Consulting Hydrogeologist, Dave Hawkins of Barranca Group, LLC., and EMLLC staff.

2.3 ORGANIZATION OF THE REPORT

This report is organized into nine sections, beginning with an Executive Summary and introductory material. Section 3 provides background information on the Mount Hope Project. Section 4 provides a narrative of drilling activities and describes the installation of test and monitoring wells. Section 5 briefly describes geophysical data obtained from the land surface and from wireline logging. Results of aquifer testing and aquifer hydraulic analyses are detailed in Section 6. Section 7 synthesizes hydrogeologic data from the well field drilling and aquifer testing with known and interpreted geologic conditions to provide a more detailed interpretation of the hydrogeologic conditions in the well field area. Section 8 provides a summary of key findings resulting from the well field exploration work. Section 9 provides a summary of key findings resulting from the well field exploration work. The introductory sections of this report, Sections 1 through 3, have

been reproduced with modification from Buqo (2008), who presented preliminary well field exploration program results through June of 2008 . Many of the appendices, such as well construction, geophysical logging, falling head data, and surface geophysics were also taken from Buqo (2008), and merged with the current report. The current report combines the older data with new information gathered from Kobeh Valley and supersedes Buqo (2008).

3.0 AREA OF INVESTIGATION

In this chapter, an overview of the regional hydrogeologic setting is provided, the area of investigation is defined and the regional geologic setting is described.

3.1 REGIONAL HYDROGEOLOGIC SETTING

Figure 1 shows the location of the Mount Hope Project and the boundaries of the Diamond Valley groundwater flow system as defined by Harrill et al (1988). As shown, the Diamond Valley flow system comprises six hydrographic basins encompassing a total of about 3,120 square miles. Groundwater derived from recharge over the upland areas generally flows northward through Monitor Valley North into southwestern Kobeh Valley. Harrill et al (1988) noted that some groundwater flows northward from Antelope Valley into southeastern Kobeh Valley, and a limited quantity of groundwater may discharge from Kobeh Valley into Diamond Valley. The large playa area in Diamond Valley is the terminus of the flow system. The groundwater reservoir in Diamond Valley has been extensively developed for irrigation. Also shown on **Figure 1** is the location of the Kobeh Valley Well Field Area. The area shown is meant to be a generalized area for discussion purposes, and is not defined in the proposed mine's plan of operations. A specific, BLM (Bureau of Land Management) approved corridor for well field development and infrastructure is shown on **Figure 10.**

3.2 KOBEH VALLEY – AREA OF INVESTIGATION

Figure 2 is a map of Kobeh Valley and adjacent areas that depicts the general area of investigation for water supply exploration for the Mount Hope Project. The total topographic relief in Kobeh Valley is about 4,150 ft ranging from an elevation of 10,133 ft at Roberts Creek Mountain to about 5,990 ft at the Devils Gate. Recharge occurs over the upland areas in the Roberts Mountains and Mount Hope on the north, the Simpson Park Mountains on the west, the Monitor Range on the south, and the Mahogany Hills and Whistler Mountain on the southeast and east. Drainage is toward the south-central portion of the basin and thence to the Devils Gate area.

The general water resources and groundwater conditions of Kobeh Valley are presented in the reconnaissance report by Rush and Everett (1964), which also included Antelope and Monitor valleys. These authors estimated the recharge and discharge in the basin and estimated an approximate perennial yield of 16,000 acre feet per year (afa). Lopes and Evetts (2004) estimated that total groundwater pumpage from Kobeh Valley in 2000 was 2,720 acre feet. As noted by Tumbusch and Plume (2006) the groundwater resources of Kobeh Valley are largely undeveloped.

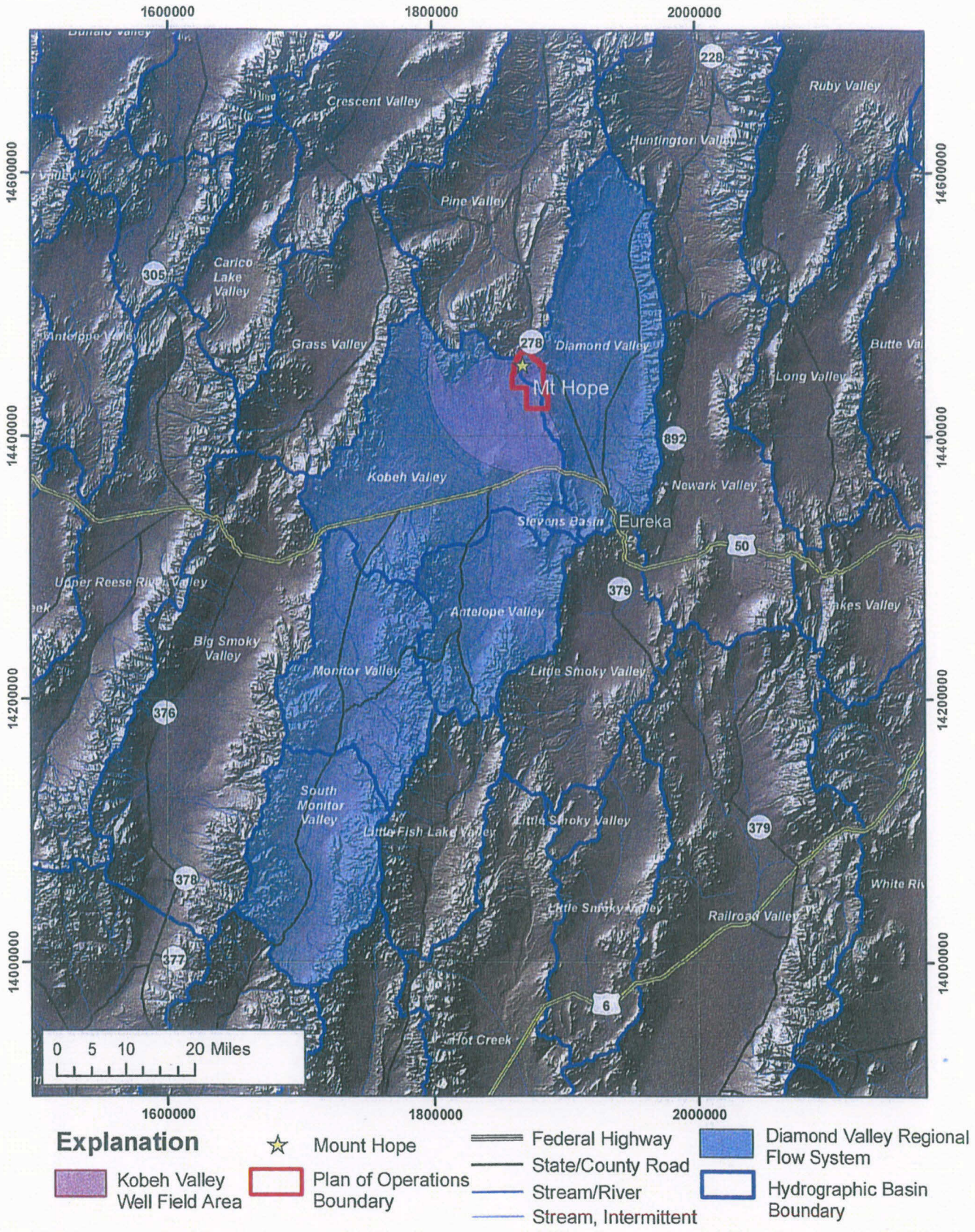

Figure 1: Area location map

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