



MEMO TO THE FILE

DATE: February 8, 2013

TO: File – Groundwater Permit #1990-552

FROM: Kent Wilkins, Water Rights Section (KW)

SUBJECT: Mill Creek Dolomite Quarry – Inter-Rock Minerals, Inc.

On February 8, 2013, Mr. Kent Wilkins of the Board's Planning and Management Staff met with Mr. Jose Ontiveros from Inter-Rock Minerals Inc. to discuss the Mill Creek Dolomite Quarry located in Johnston County, Oklahoma. Mr. Ontiveros requested the meeting to conduct consultation with Board staff regarding the Mill Creek Dolomite Quarry, an exempt mine, in response to Senate Bill 597. Subject discussion included the facility's groundwater permit (1990-552), stream water permits (1972-102; 1990-015; and 1990-031), water flow diagram, metering system and storm-water collection system. No documents were submitted at the time of the meeting.

MILL CREEK DOLOMITE, LLC

SITE SPECIFIC WATER MANAGEMENT & CONSERVATION PLAN

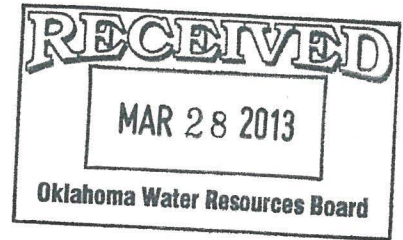
Prepared For:

**MILL CREEK DOLOMITE LLC
MILL CREEK QUARRY - Mining Permit: 1380
9915 West Amos Conley Road
Mill Creek, Oklahoma 74856
Johnston County, Oklahoma**

Prepared By:

**Jose Ontiveros
Engineering Manager
Mill Creek Dolomite LLC
9915 West Amos Conley Road
Mill Creek, OK 74856
(580) 384-5271**

Submittal Date: 3/28/2013



MILL CREEK DOLOMITE, LLC

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3/27/2013

90-552
90-15
90-31
72-102

Kent Wilkins, Assistant Chief
Planning and Management Division
State of Oklahoma
Water Resources Board
3800 N. Classen Boulevard
Oklahoma City, OK 73118

RE: Site Specific Management and Conservation Plan
Mill Creek Dolomite LLC – Mill Creek Quarry, Johnston, OK

Dear Mr. Wilkens:

As per our February 8, 2013 consultation discussion I had with you at OWRB's Office regarding the Site Specific Water Management and Conservation Plan (SSWMCP) for Mill Creek Dolomite, Mill Creek facility located in Johnston County, Oklahoma, enclosed please find the SSWMCP.

Mill Creek Dolomite is submitting this SSWMCP after consultation with OWRB in complete conformance with the applicable Oklahoma Statute §82-1020.2 (E)(1) and 785:30-15 Rules. The SSWMCP will be revised, as needed to accommodate changes at the Mill Creek Dolomite Quarry during the life of the mine.

As discussed during the meeting, as a facility that meets exempt status under O.S. §82-1020.2 (C), Mill Creek Dolomite has elected to develop such a plan on a voluntary basis, providing the ORWB with an overview of water movement and conservation practices at the site as well as clarification on specific augmentation practices that may be employed.

The SSWMCP for the Mill Creek Dolomite's facility is included. If you have any question or require additional information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to be 'Jose Ontiveros', written over the word 'Sincerely,'.

Jose Ontiveros

Engineering Manager
Mill Creek Dolomite, LLC

1.0 INTRODUCTION

Mill Creek Dolomite, LLC (MCD) operates a dolomitic limestone quarry in Johnston County, OK, five miles south of the town of Mill Creek, OK. The facility referred to as the Mill Creek Quarry, is permitted by the Oklahoma Department of Mines (ODM), Surface Mine Permit No. LE-1380. The quarry is an actively producing mine that is situated on the Tishomingo Anticline (or "Central Lobe") of the Arbuckle-Simpson Aquifer a sensitive sole source groundwater basin. As defined by O.S. §82-1020.2(C)(1), this facility meets the definition of an exempt mine. MCD is only obligated to adhere to the requirements applicable to an exempt mine defined under O.A.C. 785:30-15-4.

Mill Creek Dolomite's staff has prepared this Site Specific Water Management & Conservation Plan (SSWMCP) upon consultation with OWRB on February 08, 2013. This SSWMCP was prepared in complete conformance with the applicable O.S. §82-1020.2 requirements and O.A.C. 785:30-15 Rules.

2.0 WATER MANAGEMENT ELEMENTS

2.1 Characterization of Area (Plot Plan)

Please refer to attached Figures 1, Map 2 & Map 3 for further details on the following:

- A. Location of the Quarries**
- B. Location of the Plant**
- C. Location and characterization of water diversion, collection, settling and retention impoundments.**

2.2 Facility Layout (Water Flow Diagram)

Please refer to attached Maps 2 & 3, Attachments I, II & III for further details on the following:

- A. Water Collection, settling and retention impoundments**
- B. Direction of all water flow between the impoundments**
- C. All groundwater, mine pit water, and stream diversion points**
 - See Map 2 for location of domestic use ground water wells as defined by O.S. §82-1020.3
 - Mine pit water will be pumped from sumps within the existing pits

D. Mine pit water stream augmentation to Bee Branch Creek via an unnamed tributary through Outfall 003.

E. Location and planned quantities of consumptive use

- Water may be used anywhere within the permitted mine boundary
- Refer to Table 1 for consumptive use estimate, taken from O.A.C 785:30-15 Rules, Appendix C

2.3 Water Budget (Anticipated Flows Into and Out of the Mine Site)

Please refer to Attachment II for a depiction of the following information:

- Groundwater
- Mine pit water
- Stream water diversion
- Precipitation runoff
- Evaporation
- Augmentation

2.4 Water Rights Information

- **Entity Name:** MILL CREEK DOLOMITE, LLC
- **Dedicated Acres:** 615.90 Ac. Owned
- **Permitted Amount:**
 - **Mine Pit Water:** Mill Creek Dolomite (MCD) is classified as an exempt mine. It is entitled to consumptively use the groundwater portion of mine pit water equal to the Mine's Equal Proportionate Share (MEPS). This amount is determined based on the Maximum Annual Yield (MAY) for the Arbuckle-Simpson groundwater basin multiplied by the land owned.
 - **Ground Water:** MCD operates one domestic well OWRB Ground Water Permit #: 90-552, 121 Ac-Ft, which is subject to the domestic well exemption of O.S. §82-1020.1(2) & 1020.3.
 - **Surface Water:** MCD holds three (3) surface water rights, they are as follows:
 - OWRB Surface Water Permit # 1990-015 – 5 Ac-Ft
 - OWRB Surface Water Permit # 1990-031 – 5 Ac-Ft
 - OWRB Surface Water Permit # 1972-102 – 5 Ac-Ft

2.5 Consumptive Use of Pit Water (Table 1)

As the monitoring plan is implemented, the consumptive use of pit ground water will be estimated/measured. Values will be added to Table 1 (taken from O.A.C. 785:30-15, Appendix C) and updated to reflect actual site values

3.0 MONITORING PLAN

Mill Creek Dolomite (MCD) will measure or reasonably estimate groundwater and/or surface water volumes entering the mine pit sump(s) as well as measure the amount of water diverted from the pit sump(s). MCD will also measure or monitor consumptive use, stream and groundwater water augmentation, precipitation, evaporator, hydrology data, and/or other sources and diversions of water when applicable. This section is a summary of how the various measurements may be done. Please note that the methods described here may change as needed or required. A description of the methods actually used during a reporting period will be included in the quarterly and/or annual reports.

3.1 Measuring Diverted Pit Water

Water that accumulates or collects in the quarry pit sumps will be pumped to settling ponds (F-02 & F-01), and finally discharged to an unnamed tributary of Bee Creek. The amount of Diverted Pit Water will be estimated by direct measurement and/or by calculation (e.g. operating hours of the pump multiplied by its rated capacity), all equipment will be installed, calibrated and maintained according to the manufacturer's recommendations and specifications.

3.2 Measuring & Calculating Pit Water Components

The total Pit Water volume will be estimated based on the measurements or reasonable estimation of the Diverted Pit Water plus any calculated evaporation losses from the wetted surface of the sumps. In order to determine that portion of the Pit Water that is actual ground water, the various components need to be calculated. Each component is discussed below.

- A. **Evaporation Component:** The volume of water lost via evaporation will be calculated by monitoring evaporation and the wetted surface of the pit sumps. At this time there are two (2) sumps in the quarry area. The average surface area has

been determined for each sump. Evaporation data will be obtained from the Sulphur, OK Mesonet station and defined consumptive use for evaporation of groundwater accounted for in Table 1- Estimated Consumptive Use of Pit Water.

- B. **Surface Water Component:** The established surface drainage and stormwater runoff channels do not allow for surface runoff to enter the pits.
- C. **Precipitation Component:** The precipitation fraction of Pit Water will be measured by determining the amount of water that is contributed by direct interception into the quarry pit sumps. At this time there are two (2) sumps in the quarry area. The average surface area has been determined for each. Precipitation is measured on site and/or obtained from the Sulphur, OK Mesonet station. The volume will be calculated by multiplying the sump surface area by the amount/depth of precipitation and accounted for in the calculation of Pit Ground Water Volume in Table 1 – Estimated Consumptive Use of Pit Water.
- D. **Ground water Component:** The ground water fraction will be estimated by subtracting direct interception of surface water (Not Applicable in this case), and precipitation from the total volume of Diverted Pit Water, see Table 1 – Estimated Consumptive Use of Pit Water

3.3 Measuring Consumptive Use of Pit Water

If applicable, the fraction of Pit Water-Ground Water consumptively used will be calculated. The amount of water will be determined based on the defined consumptive uses (O.S. §82-1020.2 (F)) and the guidance provided in O.A.C. 785:30-15, Appendix “C”.

3.4 Measuring Water Diverted From a Stream or Pond

Currently MCD has three (3) surface water permits, see Section 2.4, Water Rights Information. The Surface Water is diverted from Mill Creek, this water is pumped to the processing plant where it used in wet scrubbers to control process dust. The used process water flows to a series of settling ponds then reused in the wet scrubbers (See Figure 1 & Attachment III).

3.5 Measuring Groundwater Pumped from Water Wells

At this time water is pumped from one domestic well, see Section 2.4, Water Rights Information. The ground water well associated with this facility is exempt under O.S. §82-1020.3.

3.6 Measuring Water Discharged to a Stream

Currently Pit Water is diverted from the sump in Quarry A using sump pump PU-19 and from the sump in Quarry B using sump pump PU-18. The Pit Water is pumped to a settling pond F-02 then overflows to settling pond F-01 before being released via NPDES OutFall 003 to a tributary of Bee Creek. This water is sampled and flows estimated per our Industrial Waste Water Permit No. OK0041254. The volume of Pit Water diverted is estimated by calculation (e.g., operating hours of the pumps are recorded daily, this daily hour meter reading is then multiplied by its rated capacity to calculate gallons pumped daily from the pits).

3.7 Measuring Water Recharged to the Aquifer

Groundwater augmentation may occur at some time in the future. MCD will design an appropriate recharge structure or basin and collect the necessary information to comply with O.A.C 785:30-15-5(b)- Groundwater Augmentation.

3.8 Precipitation at the Mine Site

Precipitation is measured on site using a rain gauge and recorded daily (When the facility is operating). However, as a check and in order to fill in data gaps, precipitation information will be obtained from the Sulphur, OK Mesonet station. Other Mesonet sites may be used to better estimate precipitation.

3.9 Evaporation From all Surface Water

Evaporation from surface water ponds and impoundments that receive Pit Water-Ground Water will be calculated following the guidelines developed by the OWRB per O.A.C. 785:30-15, Appendix "C", Notes.

3.10 Water Obtained from Other Sources

MCD purchases domestic water from Johnston County RWD #3.

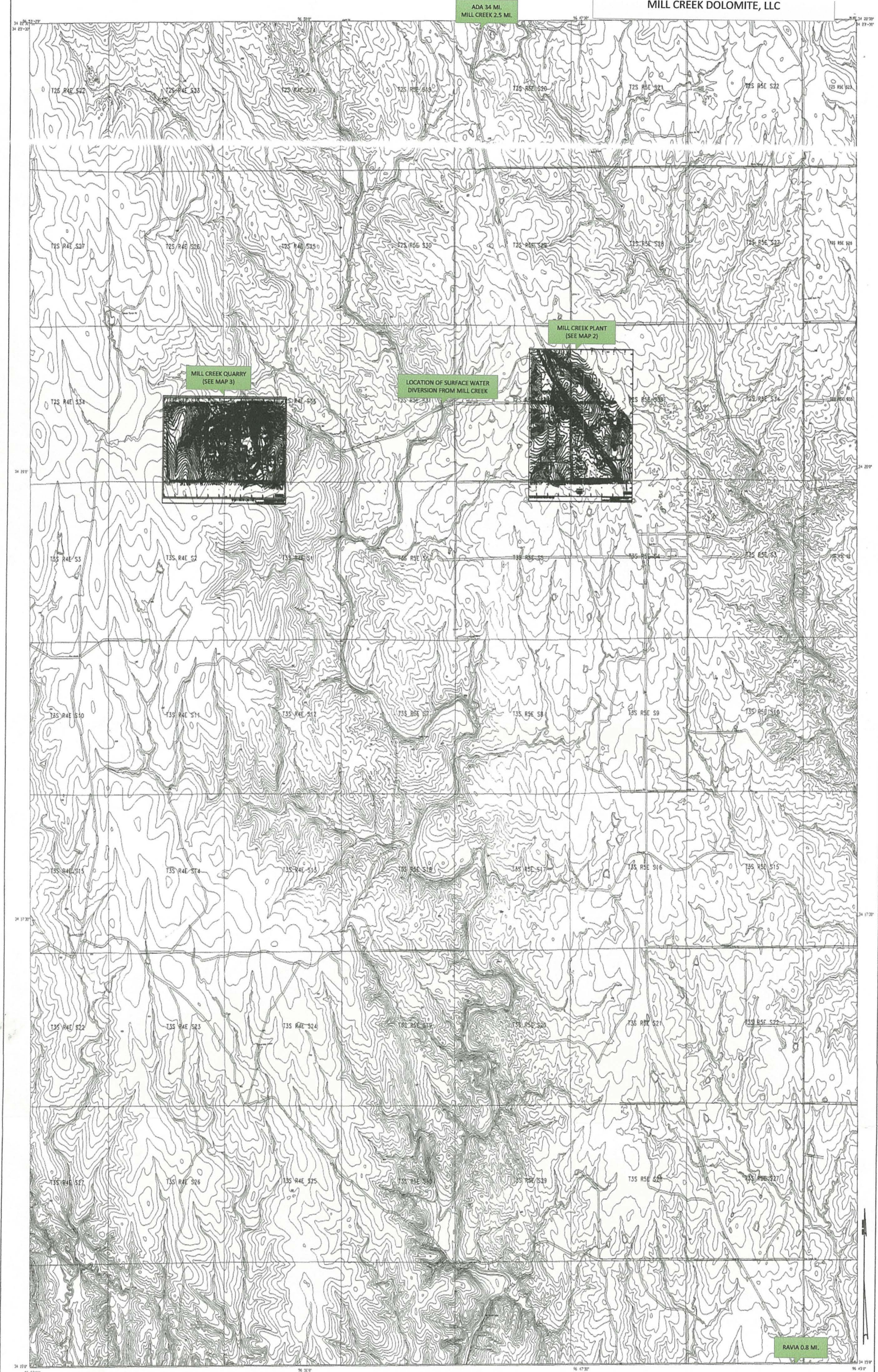
4.0 REPORTING

As required by O.S. §82-1020.2(E)(1), MCD will adhere to the schedule for quarterly and annual reporting. MCD will report the required information for an exempt mine. Also, any changes to the site maps or calculation methodologies would be included in the report. The report would follow an acceptable format readily readable by the OWRB.

TABLE 1: Estimated Consumptive Use of Pit Water

PIT GROUNDWATER VOLUME		VALUES	
1	Total volume of water pumped from the producing mine pit(s)	0	
2	Volume of precipitation that falls onto the surface of water in the producing mining pits(s)	0	
3	Portion of total precipitation that flows over the land surface that drains into the mine pit water	0	
4	Other non-pit waters pumped from the producing mine pit	0	
5	Add lines 2 through 4	0	
6	Pit Ground Water Volume (Line 1 minus Line 5)	0	
DEFINED ELEMENTS OF CONSUMPTIVE USE			
7	Volume of pit groundwater that is driven off (by drying) the mined material transported of the mine site	0	
8	Volume of pit groundwater that is carried away with the mined material transported off the mining site (shipped)	0	
9	Volume of pit groundwater that evaporates from the producing mine pit, process water ponds, and lined ponds (Excluding structures used for augmentation)	0	
10	Volume of pit groundwater that is used for other beneficial uses off the mine site	0	
11	Defined Elements of Consumptive Use of Pit Groundwater (Add Lines 7 through 10)	0	
PIT GROUNDWATER BALANCE			
12	Line 6 minus Line 11	0	
13	Groundwater Augmentation: Volume of pit groundwater returned to the groundwater basin or subbasin, pursuant to a Management Plan	CREDITS	0
	Stream Augmentation: Volume of pit groundwater discharged to a definite stream, during flow conditions that are less than or equal to 50% exceedance, pursuant to a Management Plan		0
	Precipitation & Run-off Volume of precipitation and surface run-off into a recharge pit of holding pond used for augmentation		0
16	Recycled Pit Groundwater Volume of pit groundwater returned to a mine pit or holding basin (not included on line 7 through 10)		0
17	Other Non-Consumptive Losses Including pit groundwater returned to the land surface from which surface runoff flows into a mine pit, and other losses (not included in line 7 through 10)		0
18	Add lines 13 through 17)		0
19	Other Consumptive Use (adjusted) (Line 12 minus Line 18)		0
TOTAL REPORTED CONSUMPTIVE USE OF OF PIT			
20	Total Net Reported Consumptive Use: (Line 11 plus Line 19)		0

ADA 34 MI.
MILL CREEK 2.5 MI.



24K Topography from 24K USGS DIG Files. Elevations are in MDT/FEET/10
 Section Township Lines (PLSS) from 150K and 24K USGS DIG Files.
 Feature Names from USGS Geographical Names Information System (GNIS).
 Map Accuracy is identical with that specified for these source files.
 See Spheron Asset Inc. TopoMap(s) Documentation for details. (www.topomap.com)
 North American Datum of 1983.
 X and Y Units are in US Feet.
 Coordinate System: Oklahoma south: 3002
 Scale depends on final plotted site. See source documentation for recommended plotting scales.
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 Spheron Asset Inc. P.O. Box 2478 Taze NM, 87571 1-800-342-8971, support@topomaps.com

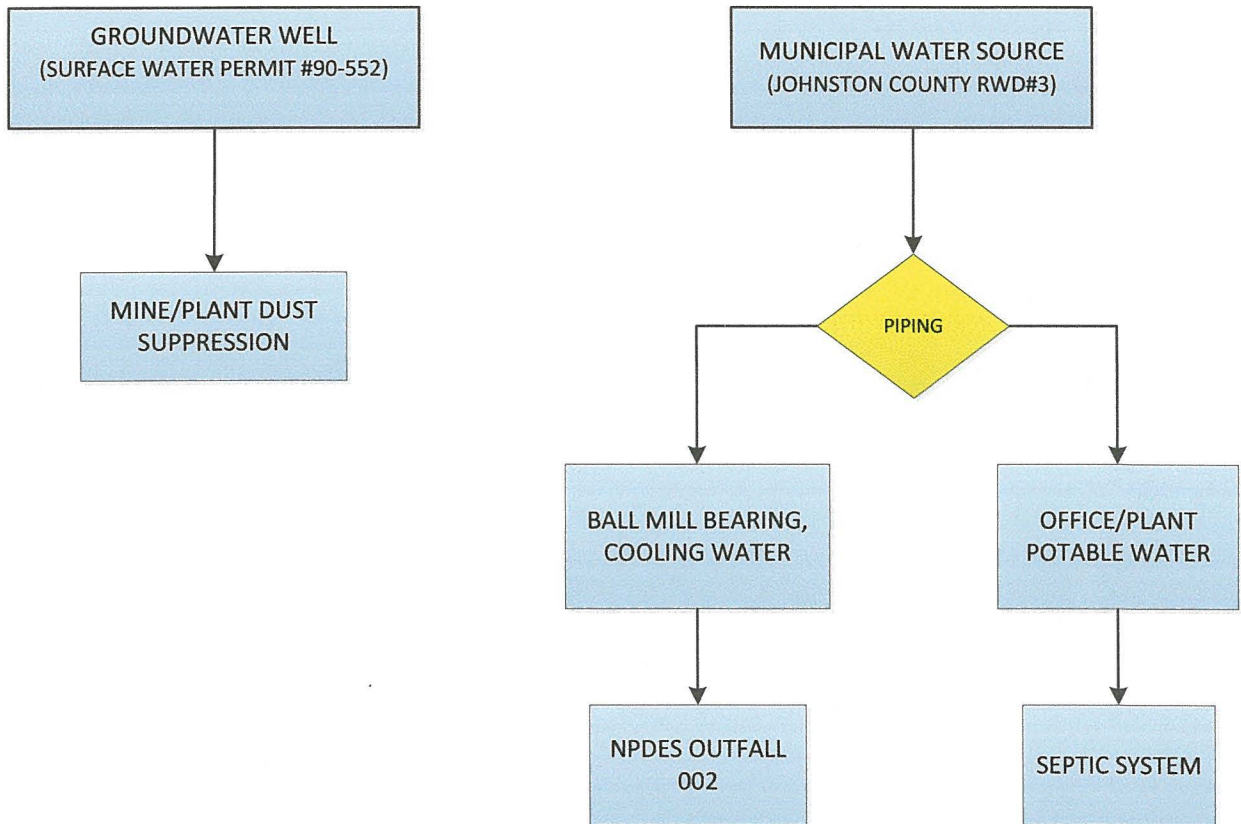
FIGURE 1

NO.	DATE	REV. BY	DESCRIPTION
1	8/20/07	dh	MAP-1

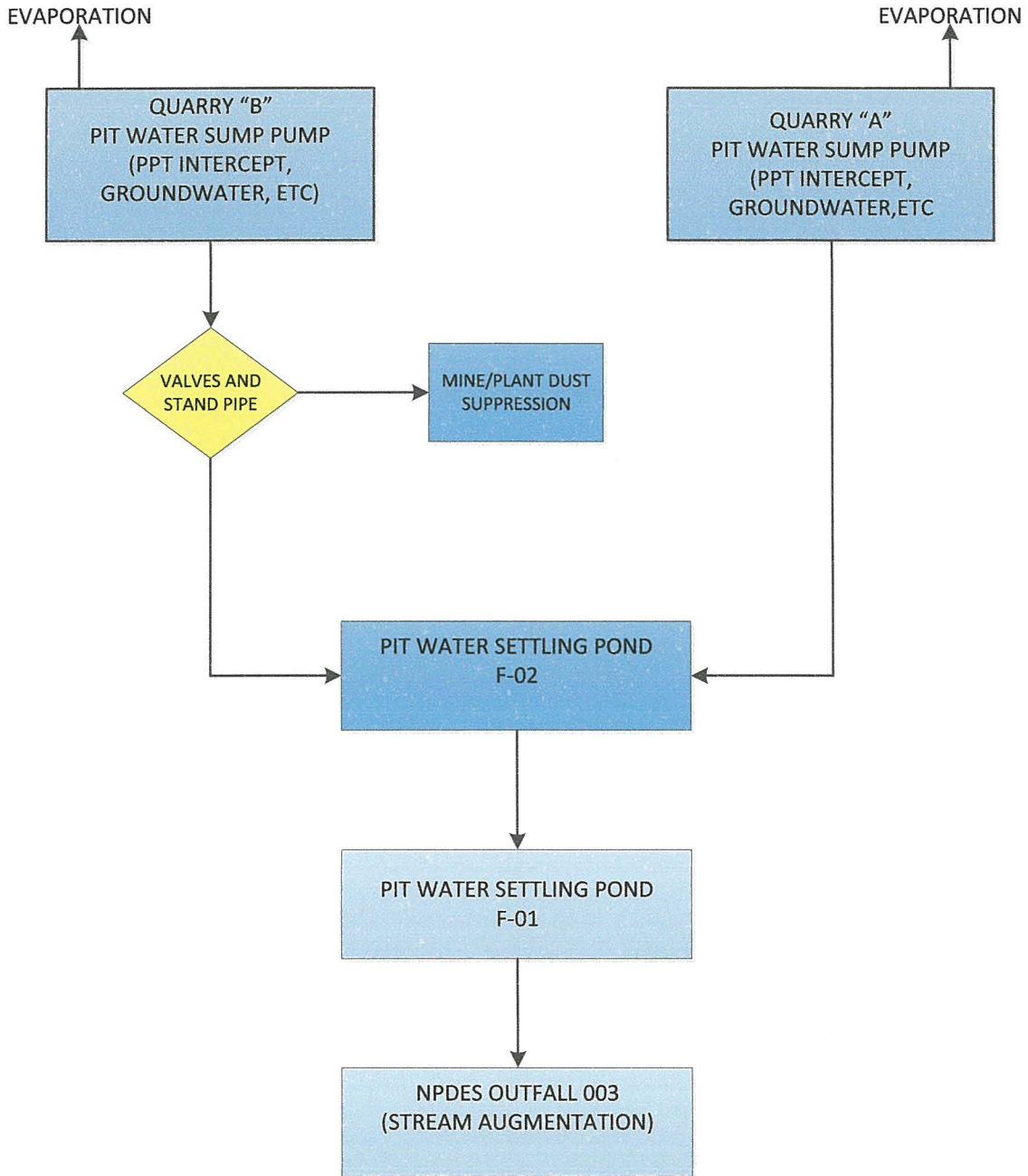
MAP SCALE	1" = 100'
PROJECT NAME	SSW MCP - PLOT PLAN
DATE	8/20/07
SCALE	AS SHOWN
PROJECT NUMBER	NC USGS Map 1.dwg

TROY QUADRANGLE

GROUND & MUNICIPLE WATER



MINE DEWATERING



PROCESS WATER NORTH PLANT AREA

